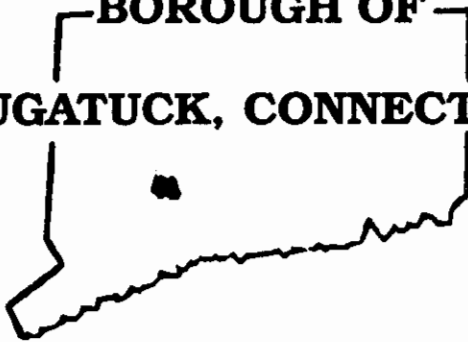


**SUB-DIVISION
REGULATIONS**

BOROUGH OF
NAUGATUCK, CONNECTICUT



SUBDIVISION REGULATIONS
BOROUGH OF
NAUGATUCK, CONNECTICUT

The following Regulations are the amended Subdivision Regulations of the Borough of Naugatuck, Connecticut, adopted by the Borough Planning Commission, pursuant to the General Statutes of the State of Connecticut.

Adopted on:	June 13, 1966
Effective:	July 1, 1966 - 12:01 A.M.
Amended Dates:	October 7, 1974 March 28, 1978 September 25, 1978 August 13, 1979 May 8, 1981 April 21, 1983 July 1, 1985 September 9, 1986 January 1, 1987 October 9, 1987 January 4, 1988 June 1, 1989 December 1, 1990 June 30, 1999
*(See Page 2 for amended sections)	

AMENDED SECTIONS

<u>Date Amended</u>	<u>Section Amended</u>
October 7, 1974	
March 28, 1978	
September 25, 1978	5.2 -Waiver of Required Improvements
August 13, 1979	1.7.4 -Accessway 2.2.7 -Sanitation Certificate 3.3 -Record Subdivision Map 3.4.7 -(under) Construction Plan 4.17 -Accessway and Lot Arrangement 4.18 -Flood Hazard Standards
May 8, 1981	1.6 -Offer of Acceptance 1.7.5 -Solar Access 1.7.6 -Solar Collector 1.7.7 -Passive Solar Energy 2.2.3 -Application Fee 2.2.9 -Advisory Reports 2.3.2 -Additional Evidence 2.8 -(under) Site Development Plan 3.2.17 -(under) Site Development Plan 3.3.5 -(under) Record Subdivision Map 3.3.19 - " 3.4.3 - " 4.3 -Building Lots 4.3.3 -Lot Lines 4.4.2c -Thoroughfares 4.6.8 -Drainage Improvements and Water Courses 4.13 -Sidewalks 4.13.1 -(under) Sidewalks 4.13.2 -(under) Sidewalks 4.13.3 -(under) Sidewalks 4.13.4 -(under) Sidewalks 4.16 -Street Trees 4.19 -Energy Conservation

<u>Date Amended</u>	<u>Section Amended</u>
April 21, 1983	2.2.11 -Erosion & Sedimentation Control Plan
	2.4.4f -(under Decisions)
July 1, 1985	1.7.8 -Soil & Erosion (a - g) -Sedimentation Control 2.2.10 -Maintenance of Improvements 2.4.4.f -(under Decisions) 3.5.9 -Soil Preservation and Final Grading 3.6 -Erosion and Sedimentation Control Plan 3.7 -Water Supply Plan 4.4.1 -Classification 4.4.5 -Existing Streets 4.7.1 -Pipe 9.1 -Enforcement 9.2 -Inspection
September 9, 1986	2.4.6 -Map Endorsement & Pond 2.4.6.1 -Certificate of Occupancy
January 1, 1987	
October 9, 1987	
January 4, 1988	2.1 -Deleted 2.4.6.2 -Certificate of Occupancy 2.4.7 -Filing & Recording
June 1, 1989	4.21 -Traffic Control Device
December 1, 1990	2.2.3 -Application Fee 2.4.1 -Referral to Regional Agency & Adjacent Municipality 2.4.6 -Map Endorsement ~ Bond 2.4.8 -Release 3.3 -Record Subdivision Map -Comprehensive Revision of the Regulations including changes to all Sections.*
June 30, 1999	

* The prior amendments are included for historical purposes in reviewing matters decided prior to the adoption of the comprehensive revisions.

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SECTION 1 - GENERAL PROVISIONS

1.1 AUTHORITY

These regulations are adopted by the Borough of Naugatuck Planning Commission under the authority of the Connecticut General Statutes as amended.

1.2 PURPOSES

These Regulations are adopted for the following purposes:

- 1.2.1. To ensure that the land to be subdivided shall be of such character that it can be used for building purposes without danger to health or the public safety.
- 1.2.2. To ensure that proper provision has been made for water, drainage and sewerage.
- 1.2.3. To ensure that proper provision is made for protective flood control measures in areas contiguous to brooks, rivers or other bodies of water subject to flooding.
- 1.2.4. To ensure that proposed streets are in harmony with existing or proposed principal thoroughfares, especially in regard to safe intersections with such thoroughfares, and so arranged and of such width as to provide an adequate and convenient system for present and prospective traffic needs.
- 1.2.5. To provide that the Commission shall require the provision of open spaces, parks and playgrounds when, and in places, deemed proper by the Planning Commission.
- 1.2.6. To ensure that proper provision is made for the soil erosion and sediment control.
- 1.2.7. To encourage energy efficient patterns of development and land use, the use of solar and other renewable forms of energy, and energy conservation.
- 1.2.8. To preserve the natural beauty and topography of the Borough and to ensure appropriate development with regard to these natural features.
- 1.2.9. To establish reasonable standards of design and procedures in order to further the orderly layout and use of land.

1.3 APPLICABILITY

- 1.3.1. Any subdivision or resubdivision of land within the Borough of Naugatuck shall conform to the requirements of these Regulations. No subdivision or resubdivision of land shall be made by any person, firm or corporation until a map for such subdivision or resubdivision has been submitted to and approved by the Borough Planning Commission and has been endorsed by the Commission and recorded in the Office of the Naugatuck Town Clerk.
- 1.3.2. The Commission shall have the authority to determine whether the existing division of land constitutes a subdivision or resubdivision under the provisions of these Regulations.

1.3.3. The Commission shall not be required to consider an application for subdivision approval while another application for subdivision approval of the same or substantially the same tract of land is pending before the Commission.

1.4 VALIDITY

If any section, paragraph, sentence, clause or phrase of these Regulations shall for any reason be held to be invalid or unconstitutional by a decree or decision of any court or competent jurisdiction, such decree or decision shall not affect or impair the validity of any other section or remaining portion of these Regulations.

1.5 RELATIONSHIP TO OTHER LAWS

Whenever restrictions or standards imposed by provisions of the Subdivision Regulations are in conflict with restrictions or standards imposed by provisions of any other governing law, rule, regulation, or private agreement, then, to the extent permitted by state and federal law, the more restrictive provisions shall govern. When one section of these Regulations imposes restrictions or standards greater than those of another section, the more restrictive provisions shall govern. To the extent that any time limit or requirement of these Regulations conflicts with the requirements of the Connecticut General Statutes, the Connecticut General Statutes shall prevail.

SECTION 2 - DEFINITIONS

2.1 GENERAL RULES OF CONSTRUCTION

In the construction of these Regulations, words and phrases shall be construed according to the commonly approved usage of the language, except that technical words and phrases that have acquired a particular and appropriate meaning in law shall be construed accordingly. All words used in the present tense include the future tense; words used in the singular shall include the plural, and the plural singular; the word "shall" is mandatory and not directory, the word "may" is permissive.

2.2 DEFINITIONS

Except as otherwise defined in these Regulations or as the context might otherwise require, the following words are defined as follows:

AASHTO: American Association of State Highway and Transportation Officials.

Accessway: A private way for vehicular traffic serving not more than one (1) interior lot.

Adjacent Property Owners: Abutting property owners and property owners adjacent to the subject site but separated by a street, a right-of-way or a watercourse.

Applicant: The person, firm or corporation proposing a subdivision or resubdivision, either for themselves or as an agent for others. The word "applicant" shall include developer.

Aquifer: A water bearing rock or stratum of sufficient size to provide a source of water to the Borough.

ASTM: American Society of Testing and Materials.

Borough: The Borough of Naugatuck, Connecticut.

Commission: The Borough of Naugatuck Planning Commission.

CTDOT: Connecticut Department of Transportation.

DEP: Department of Environmental Protection.

Easement: Legal authorization for use of a designated part of privately owned property by a person(s) other than the owner of said property.

Improvement: Any change or alteration to the existing conditions of the subdivision site for the purpose of complying with these Regulations or rendering the site more suitable for development and/or habitation.

IWC: The Borough of Naugatuck Inland Wetlands Commission.

Lot: The unit or units into which land is divided with the intention of offering such units for sale, either as undeveloped or developed sites, regardless of how they are conveyed. Lot shall also mean parcel, site or any similar term which satisfies these Regulations.

NVHD: Naugatuck Valley Health District.

Ordinance 106: A Borough of Naugatuck ordinance which addresses minimum standards for fire protection.

Open Space: "Open Space" includes, but shall not be limited to land left in its natural, undisturbed state; land areas and facilities for non-commercial, non-profit recreation; and similar land areas for wildlife habitat, passive recreation, active recreation, ground water preservation, and the like.

Plan of Conservation and Development: A comprehensive plan for the future growth, protection and development of the Borough of Naugatuck (also known as the Plan of Development).

Passive Solar Energy Techniques: Site design techniques which maximize solar heat gain, minimize heat loss and provide thermal storage within a building during the heating season and minimize heat gain and provide for natural ventilation during the cooling season.

Reserve Strip: A privately owned strip of land which controls access to land dedicated, or to be dedicated, to public use.

Resubdivision: A change in a map of an approved or recorded subdivision if such change:

- a. Affects any street layout shown on such map,
- b. affects any area reserved thereon for public use, or
- c. diminishes the size of any lot shown thereon and creates an additional building lot, if any of the lots shown thereon have been conveyed after the approval or recording of such map.

Solar Access: The ability to allow sunlight to strike a solar collector.

Solar Collector: Any device or area that uses the sun's energy to heat domestic water or to heat, cool or light a living space.

Street: Public or private roads, streets, avenues, lanes, or any right-of-way which shall have at least one intersection with another street and be dedicated to or used for public travel or a proposed way shown on a recorded subdivision approved by the Commission.

Street Line: A line dividing a lot from the street right-of-way.

Street Right-of-Way: The area between property lines reserved for public traffic.

Street, Dead-End: A street which intersects with a through street at only one end.

Street, Dead-End (Temporary): A street having one intersection with a through street and designed to be extended into adjoining land.

Subdivision: The division of a tract or parcel of land into three or more parts or lots made subsequent to the adoption of subdivision regulations by the Commission, for the purpose, whether immediate or future, of sale or building development expressly excluding development for municipal, conservation or agricultural purposes. The word "subdivision" shall also include resubdivision.

Subdivision Completion: The completion of all public improvements which are required by these Regulations or by the Commission, including, but not limited to, streets, curbs, monuments, sidewalks, pathways, open space improvements, sanitary sewers, storm water management and storm conveyance systems, utilities, street lighting and signage, street trees, traffic control facilities and as-built drawings. Where surety has been provided to guarantee completion of improvements, subdivision completion shall typically mean the completion of all improvements which are covered by the surety and shall include improvements which may be required to address unanticipated field conditions which are encountered during construction.

Turnaround: A vehicular turnaround area at the end of a dead-end street.

Watershed: The total upland and wetland area that drains to a wetland or watercourse. Smaller watersheds drain into the overall watersheds for larger watercourses.

Zoning Regulations: The Borough of Naugatuck Zoning Regulations.

SEDIMENT AND EROSION CONTROL DEFINITIONS

Certification: A signed, written, approval by the Naugatuck Inland Wetlands Commission, that a Sediment and Erosion Control Plan complies with the applicable requirements of these Regulations.

Disturbed Area: An area where the ground cover is or will be destroyed or removed leaving the land subject to accelerated erosion.

Erosion: The detachment and movement of soil or rock fragments by water, wind, ice or gravity.

Inspection: The periodic review of sediment and erosion control measures shown on the Certified Sediment and Erosion Control Plan.

Sediment: Solid material, either mineral or organic, that is in suspension, is transported or has been moved from the site of origin by erosion.

Soil: Any unconsolidated mineral or organic material of any origin.

Sediment and Erosion Control Plan: A scheme that minimizes soil erosion and sedimentation resulting from development and includes, but is not limited to, a map and narrative (also known as the Soil Erosion and Sedimentation Control Plan).

SECTION 3 - APPLICATION REQUIREMENTS AND PROCEDURE

3.1 PRE-APPLICATION REVIEW

The Commission recommends that prior to submission of a formal application for approval of a subdivision or resubdivision, the applicant prepare a preliminary plan of the subdivision or resubdivision for informal review by the Borough staff. Presentation of such a plan is recommended to facilitate general review and does not constitute a formal or legal submission as defined in the Connecticut General Statutes as amended. Any discussions or opinions rendered are advisory only and are not binding on the Borough staff or the potential applicant.

3.2 FORMAL APPLICATION REQUIREMENTS

In order to make formal application for approval of a subdivision or resubdivision, the applicant proposing the subdivision or resubdivision shall submit an application and maps, plans and documents as follows:

- 3.2.1. **Application:** An application for approval of a subdivision or resubdivision on forms prescribed by the Commission and signed by the applicant or his lawful agent and signed by the owner or his lawful agent.
- 3.2.2. **Application Fee:** An application fee payable to the Borough of Naugatuck in the appropriate amount. The application fee for a subdivision shall be set by ordinance of the Board of Mayor and Burgesses upon recommendation of the Planning Commission. A set fee schedule is available at the Borough Clerk's Office. The Commission may waive the application fee requirement for the resubmission of an application disapproved by the Commission within the previous ninety (90) days.
- 3.2.3. **Maps and Plans:** Ten (10) copies of maps, plans and documents as required in Section 4 of these Regulations or as required by the Commission.
- 3.2.4. **Engineering Report:** An engineering report prepared by a Professional Engineer registered and licensed to conduct business in the State of Connecticut documenting the design of the storm water management system, road design, sediment and erosion control methods, soils investigation, earthwork volumes, and preliminary cost estimates including:
 - a. Drainage basin maps for existing and proposed watersheds and drainage patterns, including downstream runoff areas affected by the storm water runoff from the subdivision, and off-site areas that drain through the affected area.
 - b. A written narrative describing the methodology used to compute runoff rates, volumes, detention basins, and pipe sizes.
 - c. Soils investigations, test results, earthwork calculations, slope stabilization measures, dewatering designs, dam stability, or any other relevant information, as applicable.

- d. Impacts on floodplains, aquifers, watersheds, greenways and natural features.
- e. Investigation of adequate means to provide sanitary sewer disposal and water supply.
- f. Traffic study, if necessary, and information on pedestrian links for sidewalks and bike paths, if applicable.
- g. Documentation of the design of special structures, and other relevant information required by the Engineering Department.

3.2.5. Other Approvals:

a. Inland Wetlands Commission:

- 1. **Inland Wetlands Permit:** If a formal application involves land regulated as an inland wetland or watercourse, the applicant shall receive approval from the Inland Wetlands Commission in accordance with the Connecticut General Statutes.
- 2. **Sediment and Erosion Control Permit:** If the total disturbed area of the proposed development is more than one half acre, the applicant shall receive certification from the Inland Wetlands Commission that the Sediment and Erosion Control Plan complies with these Regulations.

b. Water Pollution Control Board: When the subdivision is to be served by sanitary sewers, the applicant shall submit to, and receive approval from, the Water Pollution Control Board.

c. Naugatuck Valley Health District: When the subdivision is not served by sanitary sewers and/or by public water supply, a report from the Naugatuck Valley Health District shall be submitted indicating the acceptability of each lot for a private septic system and/or water supply.

d. Police and Fire Commissions: With all subdivisions, the Planning Commission will refer the subdivision applications and plans to the Police Commission and Fire Commission for their review and approval. The applicant shall submit, with the subdivision application, the Police Commission application and application fee.

3.2.6. Connecticut State Highway Department Permit: Where a proposed road or storm drain joins with a State Highway, the applicant shall obtain a permit for such connection from the Connecticut State Highway Department in accordance with the Connecticut General Statutes. The applicant shall present a copy of such application for permit prior to the endorsement of the Record Subdivision Map and a final copy of the permit to the Building Official prior to the issuance of a building permit. Large projects may require a Major Generator Permit from the State Traffic Commission.

3.2.7. Schedule of Maintenance of Improvements: The applicant shall submit to the Commission, for its approval, a method of providing for the maintenance and repair of a private street, storm drainage and sanitary sewers that are installed on private property.

- 3.2.8. **Open Space:** The applicant shall submit to the Commission, for its approval, the intended method of dedication of land for open space and the method of providing for the maintenance of such land as required in Section 6 of these Regulations.
- 3.2.9. **Easements and Deeds:** The applicant shall submit all easements, deeds and documents necessary to carry the subdivision plan into effect, including instruments proposed to be executed or delivered after approval.
- 3.2.10. **Site Access Agreement:** The applicant shall submit written permission from the property owner permitting entrance by the Borough or its agents or representatives onto the property for the purposes of inspecting the property and any proposed improvements, and installing the proposed and required improvements in the event of failure of the applicant to make such improvements or properly maintain them until the Borough has assumed responsibility for them.
- 3.2.11. **Additional Requirements:**
- a. **Additional Evidence:** The Commission may require the submission of additional evidence to establish to the satisfaction of the Commission that the land to be subdivided is of such character that it can be used for building purposes without danger to health or the public safety and to establish that the proposed subdivision complies with these Regulations.
 - b. **Field Staking:** The Commission may require field staking of proposed improvements for visual inspection.
 - c. **Ordinance 106:** The applicant shall comply with Ordinance 106 (Fire Protection), if applicable.
 - d. **Traffic Study:** The Commission may require the submission of a traffic study where the volume of traffic expected to be generated from such subdivision may adversely affect the public safety, or where the proposed street layout may adversely affect the public safety.

3.3 FORMAL APPLICATION PROCEDURES

To the extent that any time limit or requirement of these Regulations conflicts with the requirements of the Connecticut General Statutes, the Connecticut General Statutes shall prevail.

3.3.1. Application Receipt and Scheduling:

All applications, maps, plans, documents and data required by these Regulations shall be submitted to the Borough of Naugatuck Land Use Office. No application shall be accepted or considered filed unless it complies in all respects with the requirements of Section 3.2 of these Regulations. The date of receipt of an application shall be the date of the next regularly scheduled meeting of the Commission immediately following the date of submission or thirty-five (35) days after such submission, whichever is sooner.

3.3.2. Referrals:

- a. **Referral to Regional Agency:** When a subdivision is proposed, the area of which will include or abut land in an adjoining municipality, the Commission shall at least 30 days before approving the subdivision, submit a copy of the maps and plans to the appropriate Regional Planning Agency.
- b. **Referral to Adjacent Municipality:** The Commission shall notify the Clerk of an adjoining municipality within seven (7) days of receipt of an application, petition, request or plan, by certified mail, return receipt requested, of the pendency of any application, petition, request, or plan concerning any project on any site in which:
 - 1. Any portion of the property affected by a decision of such planning commission is within five hundred feet of the boundary of the adjoining municipality; or
 - 2. A significant portion of the traffic to the completed project on the site will use streets within the adjoining municipality to enter or exit the site; or
 - 3. A significant portion of the sewer or water drainage from the project on the site will flow through and significantly impact the drainage or sewerage system within the adjoining municipality; or
 - 4. Water run-off from the improved site will impact streets or other municipal or private property within the adjoining municipality.
- c. **Referral to the Connecticut Water Company:** If the subdivision is located in a public water supply aquifer or watershed area, the applicant shall notify the Connecticut Water Company on the appropriate forms, by certified mail, return receipt requested. Such notification shall be mailed within seven (7) days of the date of the application to the Planning Commission. The applicant shall submit proof to the Planning Commission of such notification.
- d. **General Referrals:** To assist with its consideration of an application, the Commission may refer the application to any department, agency or official it deems appropriate, to review and comment upon those matters which are the concern or responsibility of such department, agency or official.

3.3.3. Hearing:

The Commission may hold a public hearing regarding a subdivision application if, in its judgement, the circumstances require such action. The Commission shall hold a public hearing on any application for a resubdivision. Whether or not a public hearing is held, every applicant shall be afforded the opportunity to appear before the Commission to discuss the application before final action by the Commission. Nothing herein precludes the participation in the proceedings from other interested parties at the discretion of the Commission and as required or allowed by law.

a. If a public hearing is held, the Commission will:

1. Schedule the public hearing to commence within 65 days of the statutory date of receipt of the application or, with the approval of the applicant, within an additional period of time provided that such extension(s) do not exceed a total of 65 days.
2. Submit legal notices by publication in a newspaper having a substantial circulation in the Borough at least twice, at intervals of not less than two days. The first not more than fifteen days nor less than ten days, and the last not less than two days prior to the date of such hearing.
3. Notify the applicant by sending a copy of the legal notice by certified mail.
4. Close the public hearing within 30 days of its commencement or, with the approval of the applicant, close the hearing within an additional period of time provided that such extension(s) do not exceed a total of 30 days.

b. If a public hearing is held, the applicant shall notify adjacent property owners in the following manner:

1. Notices from the applicant to the adjacent property owners shall be sent by certified mail at least ten (10) days prior to the public hearing. The applicant shall obtain proof of mailing in the form of stamped certificates of mailing.
2. Prior to the date of the Commission's Public Hearing regarding the application, the applicant shall submit:
 - The certificates of mailing.
 - A list of the property owners to whom the notices were sent.
 - A copy of the letter and any enclosures sent to the property owners.

3.3.4. Decision:

- a. The Commission shall render its decision on the application for approval of a subdivision or resubdivision within sixty-five (65) days after the public hearing thereon or, if no public hearing is held, within sixty-five (65) days after the date of receipt of the application. The 65-day time period for action may be extended by an additional 65 days with the written permission of the applicant.

- b. If the Commission requests the submission of additional information, the Commission may request such information be submitted 7 days prior to the close of the public hearing or in the case where no public hearing is held, 7 days prior to the end of the sixty-five (65) day period, or any extension thereafter.
- c. In approving, modifying and approving, or disapproving an application or accompanying item, the Commission shall state in its records any conditions of approval, any modifications required and the grounds for its action.
- d. The Commission shall give notice of its decision to the applicant by certified mail within fifteen (15) days after the decision has been rendered; notice of the Commission's decision shall also be published in the newspaper one to fifteen days after the decision has been rendered. In any case where such notice is not published within the fifteen-day period, the applicant may provide for the publication of such notice within ten (10) days thereafter. Such notice shall be a simple statement that the application was approved, modified and approved, or disapproved, together with the date of such action.

3.4 FILING AND RECORDING OF APPROVED PLANS

- 3.4.1. Upon approval and within 90 days from the expiration of the appeal period under Section 8-8 of the Connecticut General Statutes, or in the case of an appeal, within ninety (90) days of the termination of the appeal by dismissal, withdrawal or judgement in favor of the applicant, the applicant shall have the Record Subdivision Map endorsed by the Planning Commission and filed in the Town Clerk's office. It is necessary to allow at least ten (10) working days within the ninety (90) day period for the Borough Planner and the Borough Engineer to review, and the Commission to sign, the Record Subdivision Map.
- 3.4.2. Prior to endorsement by the Planning Commission, the following action shall be taken by the Applicant if applicable to the particular subdivision:
 - a. Conditions/modifications of approval shall be addressed.
 - b. The Record Subdivision Map, supporting plans and documents shall be revised to conform to any modifications called for in the Commission's action.
 - c. The Director of Health (NVHD) shall endorse the Record Subdivision Map.
 - d. The Borough Engineer shall endorse the Record Subdivision Map.
 - e. Easements and deeds required by these Regulations or the Planning Commission shall be presented, in executed form.
 - f. A written statement from the Borough Engineer indicating completion of any required subdivision improvements shall be submitted. In lieu of completion, the applicant shall execute an ~~agreement~~ and file a letter of credit or other surety as approved by the Borough Attorney.

- g. A copy of the application for the Connecticut State Highway Department Permit shall be submitted.

3.4.3. The applicant shall submit the following maps and plans:

- a. Three (3) paper sets of the final plans (one for Planning records and two for Engineering records).
- b. Two (2) Record Subdivision Map Mylars® (polyester film or equivalent) for endorsement by the Planning Commission. The first Mylar® shall be filed in the Town Clerk's office. The second Mylar® shall be filed in the Assessor's office.

3.4.4. The Commission may extend the time for such filing for two (2) additional periods of ninety (90) days and the approval shall remain valid until the expiration of such extended time.

3.4.5. Any map not so filed or recorded within the prescribed time or with the required signatures shall become null and void.

3.4.6. No changes, erasures, modifications or revisions shall be made in any Record Subdivision Map after approval has been given by the Commission and endorsed in writing on said map.

3.4.7. In the event that any Record Subdivision Map, when recorded, contains any changes not approved or required by the Commission, the Plan shall be considered erroneous, and the Commission may require that the surveyor or the applicant file a correct map, as approved, noting the reason for such filing.

3.5 COMPLETION OF IMPROVEMENTS AND SURETY

3.5.1. Time Period:

- a. **Subdivision Completion:** The subdivision shall be complete within 5 years after the approval or, for a subdivision of land for a project consisting of four hundred (400) or more dwelling units, within ten (10) years.
- b. **Extension:** The applicant may apply for and the Commission may grant one or more reasonable extensions of the time period for completion, provided that the time for all extensions shall not exceed ten years from the date the subdivision was approved. The applicant shall demonstrate, to the satisfaction of the Commission, good cause for the delay in the completion of the improvements. If the Commission grants an extension of the approval, the Commission may condition the approval on determination of the adequacy of the amount of the bond securing the actual completion of the work.
- c. **Expiration:** Expiration of the time period for completion shall result in the following:
 - 1. Automatic expiration of the approval of such plan provided that the Commission shall file notice on the land records of such expiration.

2. Prevention of conveyance of any additional lots in the subdivision by the applicant or his/her successor in interest.
3. Requirement of a new application for subdivision approval of the subject land including a new application fee as well as a submission and review of all previous findings.

3.5.2. Surety Amount:

- a. **Letter of Credit or Other Surety:** In lieu of completion of all or part of the required improvements, prior to endorsement of the Record Subdivision Map, the applicant shall execute an agreement and file an irrevocable letter of credit or other method of surety approved by the Borough Attorney to guarantee completion of the required improvements. The irrevocable letter of credit shall be from a financial institution authorized to enter into such letter in the State of Connecticut. All such letters of credit shall require the applicant and financial institution to notify the Borough in writing ninety (90) days prior to the expiration of such letter of credit. The letter of credit shall also include a provision that the letter of credit will be automatically renewed until such time as the Planning Commission reduces the obligation completely.
- b. **Form and Amount of Surety:** The cost of all public improvements shall be estimated by the applicant on forms provided by the Borough Engineer. The surety amount shall be equal to 110 percent of the estimated cost of all public improvements. Public improvements include, but are not limited to, the following:
 1. The building of any roads per Borough specifications.
 2. The installation of drainage, water, sewer, utilities, sidewalks, trees and other required items.
 3. The estimated value of maintenance (such as sanding, snow plowing, and the cleaning of catch basins and drains) which may need to be performed on any roadway after said building lot is sold and before the road is taken over by the Borough.
 4. All sediment and erosion control measures.

3.5.3. Release of Surety and Completion of Improvements:

- a. **Partial Release of Surety:** The Commission may release a portion of any subdivision surety to the extent that a portion of the required subdivision improvements have been completed. The Commission shall retain twenty (20) percent of the surety until all of the improvements are complete.
- b. **Release of Surety:** Before release of any subdivision surety, or before the Commission endorses any subdivision map to permit filing with the Town Clerk when no surety has been posted, the following shall be completed by the applicant if applicable to the particular subdivision:
 1. All improvements shall have been satisfactorily completed and inspected by the Borough Engineer. The Borough Engineer shall submit a written statement that certifies that the improvements have been satisfactorily completed.
 2. The street (binder course of pavement) shall have been at least through one winter.

3. All easements and deeds shall have been submitted, if not previously provided. Title to such easements and deeds shall be unencumbered
4. All street signs, stop signs, and traffic control signs and devices shall have been completed by the applicant and inspected and/or verified by the Police Commission. All hydrants and improvements required as part of the Fire Commission approval shall have been completed by the applicant and inspected by the Fire Commission.
5. An as-built survey(s) shall have been prepared and submitted in accordance with the Borough of Naugatuck Engineering Department's requirements.
6. The applicant's land surveyor, licensed to practice in the State of Connecticut, shall certify the installation and precise location of monuments by noting such monuments and their location on the as-built plans and by signing and sealing the plans.
7. The applicant shall submit to the Commission a letter requesting the Borough of Naugatuck's acceptance of all streets shown on the Record Subdivision Map, except such streets labeled as "private streets". Documentation for acceptance of such streets shall be in a form and with accompanying documents as approved by the Borough Attorney. Warranty deeds for new streets or right-of-way land must have been executed and delivered to the Borough Attorney with a copy to the Commission. Title to said roads shall be unencumbered.

3.5.4. Certificate of Occupancy: No Certificate of Occupancy shall be issued for any structure until the following has occurred:

- a. The street(s) has been at least paved with the binder course to its full width and length and curbing has been installed.
- b. Utilities have been installed in accordance with these Regulations.
- c. Sidewalks (if required) have been constructed up to and including the point of the Certificate of Occupancy.
- d. Monuments and pipes/pins have been installed as required by these Regulations.
- e. The lot grading has been reviewed with the Building Official and the Zoning Enforcement Officer and found to be acceptable.
- f. Street signs have been installed.

3.6 FAILURE TO COMPLETE IMPROVEMENTS

Where surety has been posted and required improvements have not been completed within the time required, the Commission may thereupon declare the developer to be in default and withdraw the total amount of surety from the surety account or letter of credit and proceed to complete the public improvements. All costs, fees or other expenses the Borough may accrue in completing the work shall be debited against the funds so withdrawn to the extent permitted by law. If the surety or letter of credit is insufficient to pay for all costs to the Borough, the applicant or other responsible party shall remain liable for such costs in excess of the surety or letter of credit.

3.7 SUPERVISION AND INSPECTION OF IMPROVEMENTS

- 3.7.1. Construction of all required improvements shall be carried out under the supervision of the Borough Engineer and shall be subject to inspection and approval by the Borough Planning Commission and the Borough Engineer or their authorized agent.
- 3.7.2. Prior to construction operations, the developer and all contractors and all subcontractors shall meet with the Borough Engineer or representatives to review job conditions, advise the Borough of the construction methods and schedule and review the Borough of Naugatuck construction standards and specifications.
- 3.7.3. The Borough Engineer shall be notified prior to and during stages of construction which include, but are not limited to, the following:
 - a. Once the limits of improvement and clearing are staked and erosion control measures are installed, prior to clearing and grubbing operations.
 - b. The start of earthwork operations.
 - c. Once rough grading is complete.
 - d. When drainage and all other utilities are installed, prior to backfilling.
 - e. Prior to construction of curbing to determine the necessity of underdrains.
 - f. During construction of curbing.
 - g. During construction of street base courses.
 - h. During construction of bituminous concrete surface and binder courses.
 - i. During the placement of concrete for sidewalks.
 - j. During backfilling of pipes and structures.
 - k. When all improvements are complete.
- 3.7.4. The Commission may require the applicant to hire a Professional Engineer to periodically inspect all construction and submit periodic reports (typically monthly during active construction periods) to the Borough Engineer that the work is progressing in accordance with the approved plans. The reports should note any changes due to field conditions, utility conflicts, problems, and resolutions. At the end of the project, the Professional Engineer shall submit a certification letter along with as-built surveys, prepared and signed by a Licensed Surveyor, to the Borough Engineer stating that the project was built in accordance with the approved plans and approved field changes.
- 3.7.5. The Commission and the Borough Engineer or their authorized agent shall have free access to the construction work at all times and shall be authorized to take material samples and cores as deemed necessary.

- 3.7.6. The Commission or the Borough Engineer may require the applicant or other responsible party, at his own expense, to have material tests made by, and certified by, a professional engineer licensed to practice in the State of Connecticut or by a qualified laboratory or other person or agency acceptable to the Commission or the Borough Engineer.
- 3.7.7. Where unanticipated field conditions require additional construction techniques or an alternate construction sequence to protect the health or the public safety, the Borough Engineer or his authorized agent may require additional measures or an alternate construction sequence to mitigate the field condition. Failure to take corrective action may result in a cease and desist, if applicable, or such other enforcement remedies permitted by law. Additionally, if the Borough is required to correct the unanticipated field condition so as to protect the health or public safety, all costs that the Borough may accrue shall be debited against the surety. If the surety or letter of credit is insufficient to pay for all costs to the Borough, the applicant or other responsible party shall remain liable for such costs in excess of the surety or letter of credit.

3.8 SUBDIVISION MODIFICATIONS

Applications for subdivision modifications including, but not limited to, driveway relocation and major changes in final grades, which are necessitated by site conditions or which are deemed to be in the public interest, shall be made in the same manner as the original application; except that modifications which are found to be of minor nature or which do not materially alter the subdivision, may be authorized by the Borough Planner with the concurrence of the Borough Engineer and the Zoning Enforcement Officer.

SECTION 4 - MAPS AND PLANS

4.1 GENERAL

The maps and plans required by these Regulations shall show the information and shall be prepared in accordance with the standards hereinafter specified.

- 4.1.1. All such maps and plans shall be prepared by and shall contain a live seal or stamp and signature of the design professional within whose area of expertise or professional discipline the document falls pursuant to the Connecticut General Statutes.
- 4.1.2. All surveys shall be prepared in accordance with the Regulations of Connecticut State Agencies, Sections 20-300b-1 through 20-300b-20; "Standards for Surveys and Maps in the State of Connecticut", as adopted by the Connecticut Association of Land Surveyors. The A-2 standard for boundary information shall apply.
- 4.1.3. Plans shall be prepared on 24"x36" sheets, unless otherwise approved by the Commission.
- 4.1.4. For multiple sheets, clearly drawn match lines shall be shown on all sheets and a key map shall be drawn on each plan.
- 4.1.5. The plans shall have a horizontal scale of 1"=40', unless otherwise specified herein or approved by the Commission.
- 4.1.6. A north arrow shall be provided on the plans, if applicable.
- 4.1.7. A title block shall be provided on all plans and shall include the following information:
 - a. Title of the subdivision, which shall not duplicate the title of any previous subdivision in the Borough of Naugatuck.
 - b. Name and address of the owner of the land to be subdivided; name and address of the applicant if different from the owner.
 - c. Borough and State.
 - d. Date and scale.

4.2 MASTER PLAN

Where all land proposed for development or land under ownership of an applicant is not included in the proposal, a Master Plan shall accompany each subdivision section submitted. This plan shall be at a scale of not less than 1"=100'. The plan shall show proposed rights-of-way, streets, lot layout and open space. The Commission may require additional information where any part of the proposed subdivision would be affected by development of another part. Sections in the proposed order of development shall be labeled with roman numerals, and each section shall be applied for and processed individually and sequentially unless otherwise approved by the Commission. The applicant shall submit the Master Plan with each subdivision section application if the index map required under Section 4.3.10 does not have adequate detail.

4.3 RECORD SUBDIVISION MAP

The map for filing with the Town Clerk shall be clearly and legibly drawn and shall be prepared and filed in accordance with the regulations set forth by the Public Records Administrator of the State of Connecticut. The map shall show the following:

- 4.3.1. Existing and proposed property and street lines; adjoining property lines and street lines for a distance of 100 feet; and the names of all adjacent subdivisions and property owners from current Assessor's records; municipal boundary lines; zoning district boundary lines;
- 4.3.2. Existing and proposed wetlands, watercourses, ponds, shorelines, floodplain or flood boundaries,
- 4.3.3. Level A Map and Level B Map Aquifer Protection Areas and watershed areas or the notation that the site is, or is not, in these areas;
- 4.3.4. Easements and rights-of-way; the width, description and other necessary dimensions of easements and rights-of-way;
- 4.3.5. Proposed lots and lot numbers, existing and proposed open space; the square footage and acreage of all lots and open space and the total acreage of land included in the subdivision;
- 4.3.6. Existing permanent buildings and structures;
- 4.3.7. Dimensions on all lines in feet and decimals of a foot to the hundredth of a foot and all bearings or deflection angles on all straight lines and the central angle, tangent distance and radius of all arcs;
- 4.3.8. Street rights-of-way, widening of street rights-of-way, width of existing and proposed rights-of-way and streets, existing and proposed street names;
- 4.3.9. Existing and proposed monuments and pipes or pins;
- 4.3.10. A location map at a scale of 1"=800' showing the location of the subdivision in relation to existing roads in the Borough;
- 4.3.11. An index map (if the proposed subdivision is divided into sections or is of such size that more than one sheet is required) showing the entire subdivision with lots, lot numbers, streets, street names and delineation of areas covered by the section of the street;
- 4.3.12. The survey relationship of proposed streets to nearby monumented streets where practical;
- 4.3.13. The words "Sanitary Sewer Assessments shall be assessed by the Water Pollution Control Board in accordance with its adopted regulations" if the subdivision contains existing or proposed sanitary sewers;
- 4.3.14. The words "The Borough shall not be responsible for the maintenance or repair of private streets" if the subdivision contains existing or proposed private streets;

- 4.3.15. If a private road is proposed, the words "If the Borough is requested to accept a private street as a public street, the private street shall be improved to comply with the Subdivision Regulations totally at the expense of the property owner or owners owning or abutting such private street. All such improvements shall be completed prior to a formal request for the Borough of Naugatuck to accept such street";
- 4.3.16. The words "The development of any lot shall be in accordance with and shall meet all conditions/modifications of the Planning Commission approval". The Commission may require that modifications/conditions of approval be listed on the final Record Subdivision Map.
- 4.3.17. Building setback lines with dimensions;
- 4.3.18. In the case of an open space subdivision, the notation that the plan follows the bulk requirements of an open space subdivision with the bulk requirements listed;
- 4.3.19. Special parcels with description of proposed action and use including a note where an offer of dedication is being made;
- 4.3.20. The words "Approved by the Borough Engineer" with a designated place for the signature of the Engineer and date of signing;
- 4.3.21. The words "Approved by the Director of Health" with a designated place for signing and date of signing;
- 4.3.22. The following signature block information:

I hereby certify that at a meeting on _____, the Borough of Naugatuck Planning Commission gave approval to this plan.

Chairman

Date Signed

In accordance with the Connecticut General Statutes, all work in connection with this subdivision shall be completed within five years of the date of approval. The completion date shall be _____

4.4 SITE DEVELOPMENT PLAN

The Site Development Plan shall show existing conditions and the proposed layout of lots, streets, and improvements for the proposed subdivision and all contiguous land of the applicant that may be subdivided in the future. The plan shall show at least the following information:

- 4.4.1. Existing and proposed property and street lines; adjoining property lines and street lines for a distance of 100 feet; and the names of all adjacent subdivisions and property owners from current Assessor's records; municipal boundary lines; and zoning district boundary lines;
- 4.4.2. Existing and proposed watercourses, wetlands, ponds, swamps, shorelines, floodplain or flood boundaries;

- 4.4.3. Level A Map and Level B Map Aquifer Protection Areas and watershed areas or the notation that the site is, or is not, within these areas;
- 4.4.4. Easements and rights-of-way; the width, description and other necessary dimensions of easements and rights-of-way;
- 4.4.5. Existing contours at an interval not exceeding five (5) feet on steep land and not greater than two (2) feet on rolling land, based on field or aerial survey or other suitable sources and using the same bench mark as provided in Section 4.5.8;
- 4.4.6. Proposed lots and numbers;
- 4.4.7. Existing and proposed buildings and structures;
- 4.4.8. Principal wooded areas; existing trees over twelve (12) inches in caliper unless part of a wooded area; trees over twenty-four (24) inches in caliper in a wooded area (if the wooded area is proposed to be developed); treelines; and other significant vegetation;
- 4.4.9. Any ledge outcrops and existing stone walls within the subdivision;
- 4.4.10. Approximate dimensions on all proposed property and street lines; approximate lot area, open space area, and the total acreage of land included in the subdivision;
- 4.4.11. Existing and proposed monuments and pipes or pins;
- 4.4.12. Proposed improvements including streets, sidewalks, driveways, fence, guard rails, streetlights, walls and planting;
- 4.4.13. Existing and proposed utilities such as sanitary sewer, water lines, gas lines and electric lines including size, type, location and top of frame and invert elevations;
- 4.4.14. Proposed septic systems and reserve areas, location numbering and test date of all test pits and percolation tests, soil test results;
- 4.4.15. Proposed well locations;
- 4.4.16. Existing and proposed storm drains, catch basins, manholes, ditches, water courses, headwalls, drainage structures, detention basins including size, type, location and top of frame and invert elevations; the complete drainage system for the entire subdivision shall be shown, with appropriate development stages for each subdivision section, if applicable (this information can occur on the Site Development Plan or the Grading Plan). Also see Section 5.8 and 5.9;
- 4.4.17. Location of any test holes;
- 4.4.18. The zone designation of the parcel, a chart indicating the bulk requirements of the district, and a notation indicating compliance;
- 4.4.19. A chart indicating lot compliance with the "Buildable Lot Standards" in the Zoning Regulations.

4.5 GRADING PLAN

The grading plan shall show at least the following information:

- 4.5.1. All existing and proposed physical features including streets, driveways, buildings, sidewalks, vegetation, trees twelve (12) inches in caliper and larger unless part of a wooded area; trees over twenty-four (24) inches in caliper in a wooded area (if the wooded area is proposed to be developed); treelines; preservation of site features especially vegetation;
- 4.5.2. Layout of existing and proposed lot lines and street lines;
- 4.5.3. Existing and proposed contours at an interval not exceeding two (2) feet based on field or aerial survey;
- 4.5.4. Spot elevations on both existing and proposed roads where there is a deciding change in slope or direction;
- 4.5.5. Existing and proposed watercourses, wetlands, ponds, floodways, floodplains or flood boundaries and base flood elevations;
- 4.5.6. Existing and proposed buildings and structures;
- 4.5.7. Location of all test holes, test pits or borings;
- 4.5.8. Benchmarks and vertical datum shall be USGS 1929 unless approved otherwise by the Borough Engineer;
- 4.5.9. Slope stabilization methods including retaining walls;
- 4.5.10. Interim grading and stockpile areas, particularly on multi-phase subdivisions;
- 4.5.11. A notation indicating the volume of earth material, in cubic yards, to be brought into, or taken off of the site. The Commission may require that the earthwork volume for the road be calculated separately. The Commission may also require that cut and fill volumes be calculated for various types of materials and for each phase of the project;
- 4.5.12. The words "The yard shall be graded away from the building foundation at 2% (1/4" per foot) minimum for a horizontal distance of ten (10) feet minimum to ensure positive drainage away from buildings. The Developer shall review the lot grading and drainage with the Building Official and Zoning Enforcement Officer prior to obtaining a Building Permit and a Certificate of Occupancy for any lot."
- 4.5.13. In addition to the grading plan, the Commission may request the submission of cross section drawings covering the proposed road and area of excavation or filling;
- 4.5.14. A bold line indicating the limit of disturbance;
- 4.5.15. The grading plan shall bear the words "Approved by the Borough Engineer" with a designated place for signing and date of signing.

4.6 SEDIMENT AND EROSION CONTROL PLAN

A Sediment and Erosion Control Plan shall be submitted with all subdivision applications. If the total disturbed area of the proposed development is more than one half acre, the applicant shall receive certification from the Inland Wetlands Commission that the Sediment and Erosion Control Plan complies with the applicable requirements of these Regulations. The plan shall be in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control and Section 35 of the Zoning Regulations. The Plan shall show existing and proposed topography, disturbed areas, proposed soil stockpile areas, alterations and the location and details of erosion and sedimentation control measures and facilities. The narrative shall describe the project, the schedule of major grading and construction details and the maintenance program for the installed sediment and erosion control facilities.

4.7 CONSTRUCTION PLANS

Construction drawings shall show at least the following information in accordance with good engineering practice and as appropriate for the particular subdivisions:

- 4.7.1. Plan and profile drawings of all proposed streets, storm drains, sanitary sewers, catch basins, manholes, ditches, watercourses, headwalls, gutters, curbs and other structures shall be drawn to a horizontal scale of 1" = 40' and a vertical scale of 1" = 4'; Design of plans and profiles for streets and utilities shall be based on ground survey information;
- 4.7.2. For streets the following information shall be shown: the existing grades at the center line and both street lines and the proposed grade at the center line; spot elevations on proposed center lines at the beginning and end of all vertical curves, apex elevation, elevation at all even stations, percentage of grade on all tangents, street lines and edge and width of pavement, sample street cross section, stations on centerline at 50 foot intervals and at all grade changes and centerline intersections. The centerline profiles to which any of the streets connect shall be shown on the profile drawing for a distance of 200' beyond the end of the proposed road;
- 4.7.3. Depth, invert, slope and size of pipes, ditches, culverts, manholes, catch basins, headwalls and watercourses, cross sections, and other requirements in accordance with Section 5.8 and 5.9;
- 4.7.4. Approximate location of lot lines intersecting the street line, lot numbers and street names;
- 4.7.5. Details of streets, sidewalks, curbs, gutters, special structures and any other details necessary to illustrate that the proposed improvements comply with Borough standards;
- 4.7.6. Detail drawings of any bridges, box culverts, deep manholes and any other special structures;
- 4.7.7. Floodplain or flood boundaries and base flood elevation data within the subdivision area or its proximity;
- 4.7.8. All construction plans shall bear the words "Approved by the Borough Engineer" with a designated place for signing and date of signing.

SECTION 5 - DESIGN AND CONSTRUCTION STANDARDS

5.1 GENERAL

Subdivisions shall be designed in general conformity with the Plan of Conservation and Development, adopted by the Commission particularly in regard to streets, drainage systems, sanitary sewers, water supply and reservation of land for parks, playgrounds, recreation and open space. Proposed subdivisions and resubdivisions including all related streets, drainage, utilities and other improvements required by these Regulations shall be designed and constructed in accordance with the standards hereinafter specified and applicable ordinances and standards of the Borough of Naugatuck. Where a standard has not been established by the Borough of Naugatuck the Standard Specifications for Roads, Bridges and Incidental Construction of the State of Connecticut Department of Transportation, Form 814A, as amended, shall apply.

5.2 BUILDING LOTS

Proposed building lots shall be of such shape, size, location, topography and character that buildings can be reasonably constructed thereon and that they can be occupied and used for building purposes without danger to the health and safety of the occupants and the public. Any lot which is found to be unsuitable for occupancy and buildings by reason of water or flooding conditions, unsuitable soil, topography, ledge, rock or other conditions shall be combined with another contiguous lot that is suitable or shall be marked "This is not an approved lot at this time" on the Record Subdivision Map. The lot shall not be an approved building lot until necessary revisions or improvements to the lot have been made and approved by the Commission and a revised subdivision map has been submitted to and approved by the Commission. Proposed building lots shall be designed and arranged to make best use of the natural terrain, avoiding unnecessary grading, and to preserve natural features, substantial trees, woods and other plant materials.

- 5.2.1. **Lot Size:** Each lot shall conform to the Zoning Ordinance and Regulations for the Borough of Naugatuck. In addition, where the lot is not to be served by public water supply and/or sanitary sewers, each lot shall have sufficient area and suitable dimensions to provide ample space to accommodate a private water supply system and/or sewerage disposal system in accordance with good engineering practice and the applicable requirements of the Connecticut State Department of Health and the Naugatuck Valley Health District.

No parcels, reserve strips or other remnants of land of a size unsuitable for a building lot shall be left in any subdivision unless otherwise approved by the Commission. Any land area regardless of size, which does not conform to these or other applicable regulations or codes or is rendered useless for building according to sound practice shall be included in an adjoining conforming lot. Alternate methods of disposition for such land may be required or approved by the Commission. Restrictions may be applied to such land as deemed necessary by the Commission to protect the public health or safety.

5.2.2. **Lot Numbers:** All lots shall be numbered beginning with numeral "1" and shall continue consecutively throughout the entire subdivision with no omissions or duplications. No fractions or letters shall be used unless necessary for clarity in a resubdivision. Adjoining subdivisions and sections of a subdivision having the same title shall not duplicate numbers used previously for the adjoining land. All lot numbers shall be conspicuous and noted on the map in the approximate center of the lots.

5.2.3. **Lot Lines:** In so far as practical, the side lot lines of all lots shall be at right angles to the street on which the lot faces or shall be radial to the street line, unless a variation of this provision would result in a better street or lot layout. It shall be the discretion of the Commission to refuse to permit property lines to cross any municipal boundary line, and in the event of such refusal, such municipal boundary line shall be made to constitute one of the lot lines.

5.2.4. **Interior Lots and Accessways:**

- a. All accessways and interior lots shall conform to the requirements of the Zoning Regulations of the Borough of Naugatuck.
- b. Each interior lot shall have its own accessway. If approved by the Commission, interior lots may share a driveway. Driveways shall meet the requirements of Section 5.4 "Driveways" unless otherwise specified under this Section.
- c. The driveway to an interior lot shall be not less than eighteen (18) feet in width and shall be constructed with a processed aggregate base at least eight (8) inches in thickness on rolled subgrade. The Commission may require a paved driveway and additional drainage measures for interior drives if deemed necessary.
- d. Lot arrangement shall be such that there will be no foreseeable difficulties, for reasons of topography or other conditions, in securing a building permit to build on such lot in compliance with the Regulations and Ordinances of the Borough and in providing driveway access to building on such lot from an existing public street or a street approved by the Commission.
- e. For each such interior lot the Record Subdivision Map shall contain a notation restricting the use of such interior lot to single family residence.
- f. The Commission shall enter upon its records the reason or reasons why such interior lot is necessary and shall attach appropriate conditions, or require such guarantees as may be necessary to protect the public interest. The Commission may consider the following when reviewing interior lots:
 1. That the land characteristics and physical site conditions make interior lots practical and desirable.
 2. That the establishment of an interior lot would protect or preserve natural or man made features or resources which the Commission deems valuable.
 3. That the development of interior lots would provide the most suitable use of the land considering such factors as drainage, configuration, accessibility, and topography.

4. That there would not be an adverse impact as a result of multiple driveways on the proposed street, that accessibility for emergency vehicles would be adequate, and that the percentage of interior lots in the subdivision is appropriate.
 5. That the interior lot would correct an existing problem where an existing property has been unintentionally land-locked without adequate frontage.
- g. Connection to public sanitary sewer and/or public water is required where an accessway, serving such interior lot, adjoins a street having such facilities.
- 5.2.5. **Lot Grading:** Lots shall be laid out so as to provide positive drainage away from all buildings. Drainage shall be designed so as to avoid concentration of storm water from each lot onto adjacent lots. The lots shall be graded to allow for safe driveways, reasonable yard areas and adequate drainage, with minimal wetland impacts. The lots shall be graded to avoid concentrating runoff where there would be an adverse impact on septic systems, erodable slopes, and downhill properties.
- 5.2.6. **Street Frontage:** All building lots created by subdivision shall front on a publicly accepted street, a street bonded for public acceptance upon completion, or a private street conforming to or to be constructed to comply with the Subdivision Regulations and Borough standards.

5.3 STREET DESIGN

5.3.1. General:

Proposed streets and rights-of-way shall be planned in such a manner as to provide safe and convenient access to proposed lots and safe and convenient circulation for present and prospective traffic within the neighborhood in which the subdivision is located. In planning streets, due consideration shall be given to accomplishing an attractive layout and development of the land. Streets should in general follow the contour of the land and should have a location and grade which preserves the natural terrain, substantial trees, woods and other natural features. Streets should have an east-west orientation to the greatest extent possible in order to provide for orientation of buildings to the south and thereby encourage the use of solar energy techniques. Permanent dead-end streets shall be avoided unless connecting streets are impractical.

- 5.3.2. **Street Classification and Design:** All proposed streets in the subdivision and any existing street abutting the subdivision shall be classified by the Commission as one of the following:
- a. **Local Residential Streets:** A street primarily providing access to residential areas or neighborhoods.
 - b. **Commercial Streets:** A street primarily providing access to abutting lots used for commercial, business and industrial purposes or providing circulation within commercial, business and industrial areas. Commercial streets shall be planned to accommodate the volume, type and critical concentration of the traffic anticipated in the commercial, business or industrial area.

- c. **Thoroughfare:** A street with a largely uninterrupted traffic flow with the primary function of collecting and distributing traffic from local streets, commercial streets and other areas of traffic generation. A thoroughfare shall be provided as indicated on any Plan of Conservation and Development adopted by the Commission and where necessary as a feeder street to a residential neighborhood or to serve a commercial or industrial area.
- d. **Private Street:** A street to serve abutting lots with arrangements made for private maintenance and repair. Upon request of the applicant, the Commission may approve a proposed street as a permanent private street if the Commission finds that such a street will not impair the orderly development of the neighborhood, that there will be safe and convenient circulation for vehicles and pedestrians including emergency vehicles and that there will be suitable arrangements for maintenance and repair of the street. The street shall be constructed to the same standards as a local residential street.

5.3.3. Existing Streets:

- a. **Access from an Existing Street:** Subdivisions shall have frontage on, or access from, an existing street which is suitably improved and paved. For the purposes of this Regulation, "ancient highways", "paper streets" and the like, shall not be considered an existing street. Where these streets are incorporated into a subdivision they shall be improved by the applicant to Borough standards.
- b. **Right-of-Way:** Where a tract of land to be subdivided has frontage on an existing street, provision shall be made along such frontage for proper widening of the right-of-way of such street to 50 feet or to a greater width depending upon the classification given such street by the Commission.
- c. **Street Improvements:** The Commission may require that the applicant improve that segment of an existing street on which the lots have frontage, including, but not limited to, widening, sidewalks, traffic controls, installation of drainage, curbing, grading or tree removal.

5.3.4. Dead-end Streets:

- a. **Length:** Residential dead-end streets shall not serve more than 20 lots, or exceed 1,000 feet in length, whichever is the more restrictive requirement. Temporary dead-end streets, which may be projected into an adjoining property at some future date, may exceed such length, but shall not exceed a reasonable interim length for a safe and convenient vehicular access, including emergency vehicles, as determined by the Commission. If a dead-end street does not intersect with a through street, the Commission may require a secondary point of access into the site or other such measures as the Commission deems necessary to protect the public health or safety.

- b. **Turnarounds:** Dead-end streets shall terminate in a turnaround, whether permanent or temporary, with a minimum diameter of 110 feet for the right-of-way and a paved area with a minimum diameter of 90 feet. A larger turnaround area may be required at the request of the Borough of Naugatuck Fire Commission. Turnarounds shall generally be designed to allow for extension of public streets in the future.
- c. **Temporary Dead-End Streets:** Land for a turnaround on a temporary dead-end street, which may at some future date be projected into adjoining property, shall include the notation "This is a temporary dead-end street. Land outside the normal street right-of-way shall revert to abutters whenever the street is extended." The developer responsible for the development of the adjoining land shall be responsible for removing all segments and paved surface of the turnaround outside the normal right-of-way and suitably grading and seeding the ground at such time as the road is extended.

5.3.5. Street Extensions:

The Commission may require that the arrangements of streets in a subdivision shall provide for the extension of existing streets and the future extension of proposed streets into abutting property not yet subdivided. Where a proposed subdivision street adjoins any land capable of being subdivided or where it appears that future extension of a proposed street is feasible, rights-of-way shall be provided to the boundary of the subdivision and deeded to the Borough. The Commission may require that the paved area be carried to the boundary of such undeveloped land. The Commission may require any plans or drawings necessary to establish that such extension is in harmony with the existing or proposed road system and adjacent properties. The Commission may require grading/sloping rights on lots which abut the unimproved portion of the street. Where a proposed subdivision abuts an approved subdivision containing a future right-of-way, the developer of the proposed subdivision shall, to the extent possible, construct the street and all required improvements from the proposed subdivision street to the approved street in the existing subdivision.

5.3.6. Right-of-Way Width: Streets shall have the following minimum width of right-of-way according to their classification:

- a. Local Residential Street: 50 feet.
- b. Commercial Street: 60 feet.
- c. Thoroughfare: 60 feet.
- d. Private Street: 50 feet.

5.3.7. Width of Pavement: Streets shall be designed with the following width of pavement centered between the street lines:

- a. Local Residential Street: 30 feet.
- b. Commercial Street: 36 feet.
- c. Thoroughfare: 36 feet.
- d. Private Street: 30 feet.

5.3.8. Vertical Design Criteria:

- a. **Grade:** The minimum longitudinal grade for any street shall be 1.0%, except that a minimum grade from 0.5% to 1.0 % may be established for 100 feet or less. The maximum grade for any street shall not exceed the following:

- | | | |
|----|---------------------------|-----|
| 1. | Local Residential Street: | 10% |
| 2. | Commercial Street: | 5%* |
| 3. | Thoroughfare: | 5%* |
| 4. | Turnarounds: | 3% |

*The Commission may permit a 10% grade on Commercial and Thoroughfare streets when it finds that the increase in grade is designed to protect outstanding topographic or physical features.

The Commission may require roads to be designed with horizontal and vertical alignment that would result in desirable grades that are less than the maximum allowed when such design would improve public safety and/or minimize earthwork on the proposed lots.

- b. **Vertical Curves:** All changes in grade shall be connected by vertical curves having the following minimum stopping sight distances and lengths:

<u>Street Designation</u>	<u>Stopping Sight Distance</u>	<u>Minimum Length of Curve</u>
1. Local Residential Street	200 feet	100 feet
2. Commercial Street	285 feet	120 feet
3. Thoroughfare	285 feet	120 feet
4. Private Street	200 feet	100 feet

5.3.9. Horizontal Design Criteria:

Horizontal Curves: Connecting curves between tangents shall be provided for all deflection angles in excess of five (5) degrees. Suitable tangents shall be provided between curves and the minimum radius of curvature at the centerline of streets shall be as follows:

- | | | |
|----|---------------------------|----------|
| 1. | Local Residential Street: | 150 feet |
| 2. | Commercial Street: | 300 feet |
| 3. | Thoroughfare: | 600 feet |

5.3.10. Intersections: The following standards shall apply to street intersections:

- a. No more than two streets shall intersect at one point.
- b. Intersections shall be spaced not less than 200 feet apart except when, in the opinion of the Commission, conditions justify a variation from this requirement. The Commission may require a greater distance between street intersections.
- c. Streets shall intersect one another at, or as near to, a right angle as is practical. No intersections shall be at an angle of less than 60 degrees.

- d. At street intersections, property line corners shall be rounded by an arc having a minimum radius of 25 feet. Curb or gutter radii may vary between 25 feet and 40 feet depending on street classification and required vehicle clearance.
- e. Where any street approaches an intersection at a grade of 4% or more, a transition area, having a maximum grade of 2%, shall be provided for a minimum of 50 feet as measured from the right-of-way line of the street intersected.
- f. Intersections shall have a minimum sight distance of 200 feet in both directions for Local Residential and Private streets. For Commercial Streets and Thoroughfares, a minimum sight distance of 285 feet in both directions shall be provided. The Commission may require a sight line easement in these areas within the perimeter of the subdivision.
- g. There shall be adequate room within the right-of-way at intersections for placement and grading of sidewalks, handicap ramps, drainage, traffic controls, utility structures, and other necessary structures without conflicts or obstructions.

5.3.11. Cross Section: Street cross sections shall be designed with a 3/8" per foot (3.0%) cross pitch from the centerline to the curb. The curb shall be six (6) inches high. The sidewalk area shall be pitched toward the road with a cross pitch of 1/4" per foot (2%) for the sidewalk and a cross pitch of 1/4" to 1/2" (2-4%) per foot for the grassed shoulder.

5.3.12. Curbs: Concrete curbs shall be designed along the edge of all street pavement except a temporary turnaround.

Where the pavement of a Commercial Street or Thoroughfare will be widened at some future date, the Planning Commission may deem the initial construction of curbs unnecessary along one or both edges of the pavement until the pavement is widened.

5.3.13. Street Names: Streets shall bear names which are appropriate to the character of the Borough and which do not duplicate or too closely approximate, in spelling or sound, existing street names in the Borough of Naugatuck or any adjoining municipality. All street names shall be subject to the approval of the Commission.

5.3.14. Street Signs: Street name signs shall be installed at all street intersections in locations approved by the Superintendent of Streets. Such signs shall be of a design and material used by the Borough of Naugatuck. Street signs shall be installed prior to a Certificate of Occupancy.

5.3.15. Traffic Control Device: The Developer shall be responsible for the cost and installation of any traffic control device deemed necessary by the Borough of Naugatuck Police Department.

Such traffic control device shall meet the standards of the Manual for Uniform Traffic Control Devices for Streets and Highways and the State Traffic Commission regulations.

The Developer shall bond such required traffic control device with all other public improvements.

5.3.16. **Street Trees:** In general, street trees shall be planted approximately 50 feet apart on both sides of any street, subject to variations made necessary by driveways, street corners and walks, and shall be located within the front ten feet of the proposed lots. Trees may be planted within three (3) feet of the edge of the street pavement if approved by the Commission. Street trees shall be located so as to avoid shading solar collectors and other passive solar energy systems. Trees shall be 2 ½ inch caliber or larger and shall have a minimum height of twelve (12) feet. Existing trees along the proposed street which conform to these requirements may be substituted for new trees at the discretion of the Commission.

5.3.17. **Street Construction:** All streets shall be constructed in accordance with the following standards and procedures:

- a. **Cross Section:** The entire width of the street right-of-way shall be graded in accordance with the cross section provided in Section 5.3.11. The sidewalk area between the edge of the pavement and right-of-way line shall be loamed with a minimum thickness of 4" and seeded in accordance with these Regulations and Borough standards. The Commission or the Borough Engineer may require variation of this grading requirement in order to preserve substantial existing trees or other valuable site resources.
- b. **Pavement section thickness** shall be to the minimum compacted component thickness as follows:

Designation	Gravel Subbase	Processed Base Course	Bit. Conc. Binder Course Class II	Bit. Conc. Wearing Course Class I
Local Residential Street	8"	4"	2"	2"
Commercial Street	8"	4"	2"	2"
Thoroughfare	8"	4"	2"	2"
Private Street	8"	4"	2"	2"

- c. **Underdrains:** The Borough Engineer may require the installation of underdrains within the right-of-way at the time of construction where necessary to protect the stability of the pavement subgrade and to provide protection from frost heave.
The Borough Engineer may require underdrains, cutoff trenches, and other groundwater control methods within the lots or streets to control drainage, icing, and slope stability. This may be done during design, construction, or before the street is accepted.
- d. **Subgrade Preparation and Compaction:** All trees and roots shall be stripped to below the base course of the pavement and for the width of the pavement. The pavement subgrade area shall then be proof rolled with a minimum of six passes with a roller having a minimum dynamic force of 15,000 pounds. All soft spots found during the proof rolling operations should be undercut and replaced with compacted gravel fill. All peat, loam, organic materials, soft clay, spongy soil, boulders, ledge and other unsuitable material shall be removed and replaced by material

approved by the Borough Engineer. All fill that is placed to an elevation of less than three (3) feet above water table at the time of filling shall consist of broken or crushed rock or free draining soil meeting State Highway Department specifications. Where ledge rock is encountered, it shall be removed to a depth of one (1) foot below subgrade, and the area backfilled with gravel. Roadway embankments shall be constructed of suitable fill material deposited in successive layers not exceeding twelve (12) inches in depth. The subgrade shall be compacted by distributing the hauling over the area, by the use of thread type of equipment, by power rollers having a static weight of at least ten (10) tons or by other mechanical means approved by the Borough Engineer. Compaction requirements for all soils shall be in accordance with ASTM maximum dry density as determined by ASTM D-1557. The in-place soil density shall be determined in accordance with ASTM-Standard Methods of Test for Density of Soil in Place by Nuclear Methods (shallow depth), designation D-2922 or by the Sand-Cone Method, designation D-1556. Testing frequency shall be a minimum of one compaction test for every 10,000 square feet.

The degree of compaction shall be as follows:

<u>Areas</u>	<u>Minimum Degree of Compaction</u>
1. Controlled Native Fill or Gravel Fill within 6 feet of pavement surface	95%
2. Controlled Native Fill or Gravel Fill deeper than 6 feet below pavements	92%
3. Pavement base courses	95%
4. Below sidewalk base courses	95%
5. Trench backfill outside of pavement areas	92%
6. Trench backfill beneath pavement areas	95%
7. All Fill outside of pavement bearing zones	92%
8. All fill in slope areas at or steeper than 10' Horizontal to 1' Vertical	92%

Rollers shall travel between 1.5 and 2.5 miles per hour (2 and 3.5 feet per second), while vibrating at a frequency between 20 and 30 cycles per second (Hz). In clay and silt material, "Sheepsfoot" or "Calfsfoot" rollers shall be used.

- e. **Pavement Section Gravel Subbase Material:** Upon the prepared roadway subgrade shall be spread a uniform pavement section gravel subbase course consisting of hard durable gravel, free from ice, snow, sand, clay, loam or other deleterious materials uniformly blended, conforming to the requirements of the Connecticut Department of Transportation Form 814A, Section M.02.02-1 or M.02.02-2 (Grading A or C) and the following gradation:

Sieve Size	Percent Finer by Weight
3-1/2-inch	100
1-1/2-inch	55-100
1/4-inch	25-60
No. 10	15-45
No. 100	0-10
No. 200	0-5

The roadway gravel subbase base course shall have a minimum depth after compaction of eight (8) inches. Prior to placing all surfacing material, the base course shall be approved by the Borough Engineer. The base course shall be thoroughly compacted as outlined in Section 5.3.17.d.

- f. **Base Course:** Upon the prepared roadway subbase course shall be spread a uniform pavement section base course consisting of hard durable processed aggregate, free from ice snow, sand, clay, loam or other deleterious materials uniformly blended, conforming to the requirements of the Connecticut Department of Transportation Form 814A, Section M.05.01 and the following gradation:

Sieve Size	Percent Finer by Weight
2-1/4-inch	100
2-inch	90-100
3/4-inch	50-75
1/2-inch	25-45
No. 40	5-20
No. 100	2-12
No. 200	0-5

At least 70 percent of the materials on the 1-inch sieve should have a fractured face.

The roadway base course shall have a minimum depth after compaction of four (4) inches. Prior to placing all surfacing material, the base course shall be approved by the Borough Engineer. The base course shall be thoroughly compacted as outlined in Section 5.3.17.d.

- g. **Bituminous Concrete Base (Binder) Course:** On the prepared and approved processed aggregate base course hot asphalt concrete base course pavement shall be laid in maximum lifts not exceeding 2- inches in thickness. Bituminous Concrete Base (Binder) Course shall conform to Section M.04, Class 1, of the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A. The placement methods shall conform to Section 4.06, "Bituminous Concrete", of the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A.
- h. **Bituminous Concrete Base Surface (Wearing) Course:** On the prepared and approved bituminous base course, hot asphalt concrete surface course pavement shall be laid in maximum lifts not exceeding 2- inches in thickness. Bituminous Concrete Base (Binder) Course shall conform to Section M.04, Class 2, of the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A. The placement methods shall conform to Section 4.06, "Bituminous Concrete", of the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A.

i. **Curbs:** Curbing shall be constructed as follows:

1. Bituminous concrete curbing shall be machine formed and shall be constructed on the pavement, with a standard cross section approved by the Borough Engineer and having a height of 6 inches and a base width of approximately 10 inches. The material shall conform to the requirements of Section 8.15, "Bituminous Concrete Lip Curbing", of the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A. The surface of the pavement where the bituminous concrete curb is to be constructed shall have been cleared of all loose and foreign material, shall be perfectly dry and shall be coated with an RC-2 tack coat or other approved bitumen just before placing the material. The material shall be properly compacted to the required cross-section by use of a suitable machine specifically designed for that purpose. After completion of the curbing, traffic shall be kept at a safe distance for a period of not less than 24 hours and until the curbing has set sufficiently to prevent injury to the work.
2. Portland Cement concrete curbs shall be precast or cast in place concrete, constructed in a manner approved by the Borough Engineer. Curbs shall be six (6) inches wide at the top, nine (9) inches wide at the bottom and except at driveway cuts shall have a minimum depth of 18 inches, six (6) inches of which is exposed above the pavement. The concrete shall have a 28-day compressive strength of 3,000 pounds per square inch and shall conform to Section 8.11, "Concrete Curbing", of the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A for Class "C" concrete.
3. The Commission may require the applicant to reset or replace existing granite curb. New granite curb may be required in streets where the surrounding neighborhood contains granite curb.

j. **Guard Posts:** Guard posts shall be installed along all streets where there will be:

1. An embankment with a side slope steeper than four (4) feet horizontal to one (1) foot vertical when the change in grade is a distance of less than 20 feet from the face of curb. At various other locations due to steep slopes, obstacles and/or other unforeseen conditions. Metal Beam Rail shall conform to Section 9.10, "Metal Beam Rail", of the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A.
2. The Commission may require or accept alternative systems such as timber post and guide rail or post and cable systems.

- k. **Construction Procedures:** Line and grade stakes, benchmarks, and offset stakes, shall not be spaced more than 50 feet apart and shall be set by a licensed land surveyor and maintained in good order during construction and until the construction is approved by the Borough Engineer. The Borough Engineer shall receive copies of shop drawings, material tests, inspection reports, meeting minutes, as-staked sketches, delivery tickets, field changes, progress as-built surveys, and other field information during construction. No street shall be opened or used for travel until it has been approved by the Borough Engineer. All water mains, sewers, pipe and other underground utility services shall be installed, tested and accepted by the representative utility companies or governing departments prior to placing the subbase and base courses. Catch basin tops shall be recessed to accept drainage before the wearing course of pavement is placed.
- l. **Debris and Equipment:** Prior to roadway acceptance, all large rocks, boulders, felled trees, stumps and brush shall be removed from the street right-of-way. All temporary structures, tools, equipment and waste material shall be removed from the street right-of-way upon completion of the work.

5.4 DRIVEWAYS

- 5.4.1. Subdivision lots shall have driveway access from the street to the garage, carport or parking place. The driveway shall have a reasonably graded landing area at the parking place, a safe alignment to the road, and a level landing area at the right-of-way as specified herein and in accordance with Borough standards. The area for parking shall be of adequate design to accommodate parking spaces as required by the Zoning Regulations.
- 5.4.2. The minimum driveway width shall be no less than ten (10) feet. Driveway widths should not exceed twenty (20) feet in the right-of-way.
- 5.4.3. The slope of paved driveways shall not exceed fifteen (15) percent (10% max. preferred) and shall have a maximum slope of five (5) percent within ten (10) feet of the right-of-way. Unpaved driveway slopes shall not exceed ten (10) percent (8% max. preferred). The right-of-way area shall be graded toward the street as specified herein and in accordance with Borough standards.
- 5.4.4. Driveways shall be located as far as possible from street intersections. No driveway shall have an access within 30 feet of a street intersection as measured from the right-of-way line unless approved by the Commission.
- 5.4.5. No driveway shall service more than two (2) lots without the approval of the Commission.
- 5.4.6. The Commission may require the provision of shared driveways and access where determined necessary or desirable to protect the public health, safety or welfare, or natural features.

- 5.4.7. Driveway aprons within the Borough right-of-way shall be paved. The Commission may require that shared driveways, driveways with the potential for erosion, and driveways to interior lots be paved. Pavement may be bituminous asphalt, reinforced concrete, or special pavements of a design and material acceptable to the Commission and shall be constructed in accordance with Borough standards and with standards contained herein.
- 5.4.8. Sight lines from driveways onto adjacent public roads shall allow a driver to safely exit the driveway.
- 5.4.9. Driveways shall be graded to prevent the drainage from creating icing problems, causing erosion, or impacting septic systems, wells or neighboring properties.

5.5 SIDEWALKS AND PEDESTRIAN EASEMENTS

- 5.5.1. **Sidewalks:** Sidewalks shall be required on proposed or existing streets in all subdivisions as follows:

- a. Sidewalks shall be required on both sides of streets in subdivisions in all residential zones.
- b. On a cul-de-sac street(s), sidewalks will not be required around the circumference of the turnaround.

- 5.5.2. **Sidewalk Waiver:** A sidewalk waiver may be granted by the Commission where one or more of the following conditions exist:

- a. Where the subdivision lots are not within legal walking distance of any school (as determined by the Connecticut State Department of Education),
- b. Where the subdivision lots are not within reasonable walking distance of a park, playground or other facilities used by the public.
- c. Where the public safety will not be materially affected.
- d. Where unusual physical or topographical conditions in conjunction with an absence of sidewalks in the immediate area make installation impractical.

A request to waive sidewalk installation must be submitted at, or prior to, the first Commission review of a subdivision application or at, or prior to, the public hearing (if applicable), which ever comes first.

- 5.5.3. **Pedestrian Easements:** In areas where the proposed street system does not conform to a convenient pattern of pedestrian circulation, particularly in the vicinity of parks, schools, playgrounds or other public or semi-private places, the Commission may require the establishment a minimum ten (10) foot easement for pedestrian ways, and may require the construction of a sidewalk within such easement.

5.5.4. Sidewalk Design and Construction: All sidewalks and walkways shall conform to Borough construction and design standards and as required herein. All sidewalks shall include ramps at all pedestrian crosswalks for the handicapped in accordance the Connecticut General Statutes and constructed to the current standards of the Americans with Disabilities Act (ADA).

- a. Sidewalks shall be a minimum of four (4) feet in width and shall be located within the street line with one edge one (1) foot from the right-of-way line. All sidewalks shall be laid on a six (6) inch bank run gravel base, watered and rolled to an optimum moisture content and compacted prior to pouring.
- b. The sidewalks shall be constructed of concrete (4) inches thick with 6x6-6/6 wire mesh reinforcement in the middle of the slab. Where no wire mesh reinforcement is used, the thickness of the concrete shall be five (5) inches. The concrete shall have an ultimate 28 day compressive strength of 3,000 pounds per square inch and having expansion joints with premolded fillers spaced not more than 25 feet apart and with suitable weakened plain joints every five (5) feet. The walk shall have a cross slope of 1/4 inch per foot, shall be poured in one pour and shall be finished with the use of a wood float.
- c. Sidewalks shall continue through driveway aprons unless otherwise approved by the Commission. At driveways the thickness shall be increased to six (6) inches with an eight (8) inch base and a 6 x 6-6/6 wire mesh reinforcement shall be placed in the middle of the slab.

5.6 MONUMENTS

Monuments shall be provided on both right-of-way lines of any street at all points of curvature, all points of tangency, all angle points and all other intermediate points as may be required by the Commission. Where not otherwise marked by monuments, all property corners and angles along the right-of-way and on each lot shall be marked with steel or iron pipes or pins prior to obtaining a certificate of occupancy for that lot. Monuments shall be made of concrete, reinforced with four (4) steel rods, and shall be not less than seven (7) inches square by 36 inches in length with a suitably marked top. Monuments may also be marble or granite with a drill hole or bronze disk in the top. Each monument shall be set in place, after all street construction is completed, with the marked point set on the point of reference. Monuments shall be set flush with finished grade. Right-of-way monuments shall be set following substantial completion of the road and prior to street acceptance.

5.7 UTILITIES

5.7.1. Underground Utilities: Electric, telephone and cable systems shall be placed underground. Underground service connections to the front property line of each lot shall be installed before the street is paved.

All underground utilities shall be marked with metallic detector tape and shown on the as-built survey(s) and plot plans.

5.7.2. Waiver of Underground Installation: The Commission may waive underground installation of such utilities in those portions of subdivisions abutting an existing street which does not have underground utilities or if it finds that safe underground installation is not feasible because of soil, ledge or water conditions or other natural or manmade conditions. The burden of proof shall be on the applicant to illustrate that underground utility installation to serve all or part of a proposed subdivision is impractical. The following factors shall be considered in reviewing any waiver request:

- a. Recommendations or comments from the responsible utility company.
- b. The existing character of the subdivision location and potential impacts on adjacent property owners and the public's health, safety and welfare.
- c. Potential impacts on natural resources or other features such as trees, tree canopies, walls and landscaped areas.
- d. Physical constraints that will significantly affect the cost of providing underground service.
- e. The nature of the existing utility system and the need for and cost of extending distribution lines to serve the proposed subdivision.

5.7.3. Street Lighting: Street lights conforming to Borough standards shall be provided in the subdivision at the applicant's sole expense and shall be provided at a minimum at every intersection. The Commission may require additional street lighting if it is determined that it is necessary for public safety.

5.7.4. Water Supply:

- a. The applicant shall provide sufficient information to the Commission to establish that an adequate water supply is available to serve the domestic and fire protection needs of the proposed subdivision. This information may include written confirmation from the Connecticut Water Company, the Naugatuck Valley Health District and the Naugatuck Fire Commission. It may also include, but not be limited to, the submission of fire hydrant flow test data, water main analysis, well completion reports and hydrogeologic studies.
- b. Public water supply shall be provided to lots in any subdivision located within any area served by public water supply or when located within 200 feet of a public water supply in accordance with the Connecticut State Health Department or such a distance to the public water supply as to make extension economically feasible as determined by the Commission. The Commission may consider a variety of data in making that determination including; the long-term benefit to the community, the costs of providing alternative means of water supply for domestic use and fire protection, availability of adequate supply and pressure, and other applicable information.
- c. No subdivision using water supplied by a company incorporated on or after October 1, 1984 shall be approved by the Commission unless such company has been issued a certificate pursuant to Section 16-262m of the Connecticut General Statutes.

- d. Where public water is not required, a private well may be permitted for each lot, provided that each well can be designed, located and constructed in accordance with the requirements of the Borough of Naugatuck Ordinances and Regulations, the Public Health Code and the Naugatuck Valley Health District. Adequate water supply for fire protection shall be established in accordance with the Borough standards.

5.7.5. **Sanitary Sewers:** Sanitary sewers shall be provided to lots in any subdivision located within the sewer area of the Borough or within such a distance of existing sanitary sewers as to make extension of sewers economically feasible as determined by the Commission. Sanitary sewers shall be designed and constructed in accordance with the following standards:

- a. The sanitary sewer collection system shall be designed and constructed in accordance with the standards of the Water Pollution Control Board and Borough standards including, but not limited to, TR-16; Guides for the Design of Wastewater Treatment Works, by the New England Interstate Water Pollution Control Commission, 1980 or latest edition.
- b. Sanitary sewer pipe shall be polyvinyl chloride pipe (PVCP) with built-in rubber gasket joints. PVCP shall conform to ASTM 3034 (SDR35) with compression joints and appropriate fittings. PVCP shall be installed in accordance with ASTM-D2321 and manufacturer's recommended procedure.
- c. All pipes shall be laid on straight alignments and even grades using a pipe laser or other accurate method.
- d. Trench excavations shall comply with CFR 29; Section 1926.650 (OSHA regulations for excavation safety). Boxes, sheeting, jacks, and sloping shall be used as appropriate.
- e. Pipe shall be backfilled and compacted in 8" lifts to 95% maximum dry density in accordance with the requirements of ASTM D1557 as shown on the details. The pipe shall be bedded on 6" of ¾" crushed stone. Provide a 8-12" pipe foundation of ¾" crushed stone in rock excavation. Trench bottom shall be stable in all areas including high groundwater areas. Initial backfill shall be 18" of sand over the top of the pipe, and the pipe shall be marked with metallic detector tape. Provide silt or clay waterstops every 100' in groundwater areas.
- f. Sanitary sewers and forced mains shall have 10' min. horizontal clearance to the water mains. Where sanitary sewers cross water lines, the water line shall be at least 18 inches above the sewer (clear distance between outside of pipes) while at the same time maintain at least 4.5 feet of cover over the water line. If the water line cannot be placed above the sanitary sewer or the vertical clearance is less than 18 inches, encase the sanitary sewer with 6 inches (all around) of Portland cement concrete for a distance of 10 feet on both sides of the crossing. Alternative methods of protecting water supplies may be used if approved by the Connecticut Water Company and Borough Engineer.

- g. Manholes shall be precast concrete, with rubber gaskets at joints, a waterproof exterior coating and waterproof rubber boots at pipe junctions. Invert shall be built of sewer brick and constructed to provide smooth transitions without clogging. Ladder rungs shall be either aluminum or jacketed steel and constructed with straight, safe alignment. Cast iron frame and covers shall read "sanitary sewer", be without ventilation holes, and be set on at least two, and no more than ten, courses of brick and mortar. Manholes shall be set level on 6" of crushed stone, and be backfilled and compacted in lifts to avoid damaging the manhole.
- h. Laterals shall be constructed to the same standards as sewer mains.

5.8 STORM WATER MANAGEMENT GUIDELINES AND DRAINAGE DESIGN

Storm drainage shall be planned and designed to conform to the following Borough standards.

5.8.1. Basic Components of a storm water management plan should include:

- a. **Upstream Drainage Basin Analysis:** All proposed subdivision projects must identify the upstream tributary drainage area and perform a downstream impact analysis. The degree of the analysis to be performed will depend on the project size and the potential to impact downstream drainage and will be determined by the Borough Engineer.
- b. **Nonstructural Drainage Systems:** The Storm Water Management Plan should emphasize nonstructural approaches to controlling runoff, encouraging the infiltration of rainfall into the soil and preservation of natural drainage patterns. Care should be taken to ensure that the design of infiltrative basins not impact basements in nearby dwellings or commercial buildings.
- c. **Wetland and Riparian Buffers:** Natural vegetated riparian buffers should be preserved, restored, or established along watercourses and around wetlands wherever possible. The Inland Wetlands Commission shall establish riparian buffers for specific watercourses or regulated activities.
- d. **Erosion and Sedimentation Controls:** All Storm Water Management Plans must include a plan to install and maintain measures to control and mitigate soil erosion and sedimentation for both pre and post construction scenarios.
- e. **Storm Water Runoff Quality:** Storm Water Management Plans should minimize the discharge of pollutants into waterbodies and wetlands through the use of measures that minimize sources of pollution and transport of pollutants. The goal is to remove 80 percent of the total suspended solids. The use of filter strips, sediment basins, groundwater recharge systems, extended detention basins, or storm water treatment systems such as, but not limited to, "Vortechinics®", "Downstream Defender®", or "Stormceptors®" are encouraged.

- f. **Conveyance System:** All conveyance systems (gutters, pipes, channels, etc.) for the proposed project must be analyzed, designed, and constructed to accommodate existing upstream and off-site runoff and the developed on-site runoff. The Commission may also require that the proposed conveyance systems be analyzed for ultimate development within the watershed and designed accordingly.
- g. **Discharge at Natural Locations:** The runoff from proposed project sites should be located at natural watercourses or man-made drainage systems with adequate capacity to handle the developed conditions of the project.
- h. **Maintenance and Operation:** Maintenance of all drainage facilities constructed or modified by a proposed project, not dedicated to a government agency, will be the responsibility of the property owner. Maintenance and operation plans and schedules for the Storm Water Management Plan must be submitted to the Borough Engineer or his designee, when applicable.
- i. **Licensed Professional Engineer:** All Storm Water Management Plans, reports, computations, maintenance and operation schedules shall be performed by, signed and sealed by a licensed Professional Engineer registered in the State of Connecticut.

5.8.2. **Storm Water Management Plans and Reports:** Storm Water Management Plans and reports are required for all subdivision applications except when the Borough Engineer or his designee grants a waiver in writing, if the applicant demonstrates that the storm water goals and objectives have been met. Storm water management plan reports should include the following:

- a. Topographic Contour Map(s) showing drainage area(s). USGS maps may be used.
- b. Floodplain boundaries as defined by the Naugatuck Flood Insurance Study and Inland Wetland boundaries.
- c. A description of the drainage basin, watercourse(s), and man-made drainage facilities including areas of limited flow capacity, bank or bed erosion, sediment deposition, DEP water quality classification, recreation areas and channel stability.
- d. An inventory and evaluation of on-site hydraulic structures and watercourses, including brooks, channels culverts, bridges, dams and dikes with information on their flow capacity and physical condition.
- e. An inventory map or list of significant on-site flood water storage areas, including impoundments, riverine corridors, swamps, ponds, floodplains, wetlands and depression storage.
- f. Identification of the peak rate of runoff at various key points in the watershed and the relative timing of the peak flow rates. The Commission may require the investigation of off-site channels, culverts, dams, and other drainage features within the watershed as part of the storm water management design.
- g. Identification of hydraulic structures and watercourses that are inadequate under existing and developed conditions. The Commission

may use the capacity of existing systems to establish allowable rates for peak runoff for proposed systems.

- h. Recommendations on how runoff is to be managed to minimize any harmful downstream impacts.
- i. Recommendations for drainage improvements for existing and developed runoff conditions.
- j. Written description and computations including the following information:
 - 1. Method used to calculate storm runoff.
 - 2. Runoff characteristics of the property before and after development.
 - 3. Drainage calculations.
 - 4. Peak flow rate and velocity at key points of discharge from the total system.
 - 5. Design calculations for all drainage piping, structures, lined swales and outlet splash pads.
 - 6. The evaluation of existing storm drain systems for the peak flow rates anticipated for future maximum development of their drainage areas and recommended method for solving deficiencies.
 - 7. All ponding calculations at low points within pavement areas or grass areas.
 - 8. Dry well and underground infiltration system computations along with permeability and soil testing information and soil testing.
- k. A complete set of construction plans showing plans and, for storm sewers proposed in roadways, profiles of all storm drains, piping, channels, and structures to be incorporated in the system, including top of frame and flow line elevation, along with details of any special or unusual structures.

5.8.3. Hydrology Methods

- a. The peak rates of runoff from simple watersheds with (typically 50 acres or less of land) and without surface impoundments may be computed with the Rational Method, as described in ASCE Manual of Practice # 37 and with runoff coefficients based upon both land use and soil types. The Rational Method shall not be used for designing detention systems.
- b. A complete runoff hydrograph evaluation is required for projects resulting in significant impacts, watersheds with significant surface impoundments, and other critical activities as determined by the Borough Engineer or his designee. Hydrograph evaluations shall be conducted for existing and anticipated land use conditions for storms with average return frequencies of 2, 10, 25 and 100 years.

- c. Where required, the US Soil Conservation Services hydrology methods (TR-20, TR-55) or U.S. Army Corps of Engineers Methods (HEC-1) must be used to compute runoff hydrographs.

Hydrograph evaluations shall be conducted for existing and anticipated land use conditions, based upon the approved Zoning Map. The hydrograph analysis shall include determination of runoff for each subwatershed and routing runoff through storage impoundments and floodplain storage areas. The timing sequence of the runoff must be fully developed. Subwatersheds shall be selected to determine flows at key structures as well as to determine runoff from areas prone to development. The analysis must isolate and identify that portion of the peak flow at critical downstream points which is due to the development of the project site.

In using the Soil Conservation Service methodology, the following 24-hour rainfall amounts shall be used:

Storm Frequency(Year Storm)	Inches of Rainfall
2	3.2
5	4.1
10	4.7
25	5.5
50	6.2
100	6.9

The SCS Type III rainfall distribution pattern shall be used with Antecedent Moisture Condition II. Other storm events may be used where warranted if approved by the Borough Engineer.

- d. For detention basin sizing and performance of routing calculations the US Soil Conservation TR-20 or TR-55, HEC-1, Santa Barbara Urban Hydrograph, Modified Rational Method or other methods acceptable to the Borough Engineer shall be used.
- e. The time of concentration used for all hydrology methods should be based upon use of multiple segment flow paths as described in the Soil Conservation Service TR-55 manual and reflect field conditions. These computations must be submitted.

The Seelye Chart may be used for travel distances under 1,000 feet in length. The Kirpich Chart may also be used for the Rational Method.

- f. The design storm frequencies shall be as shown below:

Drainage Structure Type	Typical Design Storm Frequency, Years
Storm Water Treatment System (BMP)	1" of runoff, 2-month storm
Storm Sewers	25
Catch Basins in Sags	25
Gutters	10
Drainage Swales	25
Dry Wells or Infiltration Systems	25
Culverts	50
Bridges	100
Detention Basins	2, 10, 25 & 100
Low-hazard small dams	100
High hazard large dams	½ PMF - 1 PMF*
Flood control channels	100-500
*PMF = Probable Maximum Flood (see CTDEP criteria)	

5.8.4. Peak Flow Attenuation

- a. The discharge of storm water runoff from development sites must not cause adverse downstream conditions. Generally, detention in the upper part of a watershed will be required. Detention in the lower third of the watershed may not be required. A watershed study may be required to determine whether a detention system is necessary. The Borough Engineer shall review and approve all storm water management systems. Necessity of detention will be made by the Borough Engineer. When detention is required, storm water runoff must be controlled so that during and after development, the site will generate no greater peak flow than prior to development for a 2-year, 10-year 25-year and 100-year 24-hour storm.

Detention basins are to be placed in upland areas. Detention basins in wetland areas may be allowed only with the approval of the Inland Wetlands Commission and with the review of the Borough Engineer.

- b. The techniques available to attenuate changes in peak flow rates include, but are not limited to the following:
- Limiting impervious coverage
 - Maintaining or increasing travel times
 - Groundwater recharge
 - Preserving wetlands and natural depressions
 - Preserving, restoring or establishing riverine buffers
 - Storm water detention facilities
 - Extending the time of concentration

5.8.5. Local Storm Water Management

The following measures shall be applied to individual lots or parcels of land where required by the Borough Engineer or his representative:

- a. **Roof Runoff:** When feasible and appropriate, roof runoff should be directed into infiltration systems sized to contain one inch of rooftop runoff for the 10-year storm or onto stable vegetated soils for at least 50 feet to encourage infiltration and groundwater recharge. Excess roof runoff may be directed overland or to watercourses or storm drains via grass swales or perforated pipes.
- b. **Parking Lot Runoff:** Parking lots constructed over pervious soils (excessively and well drained as defined by the Soil Conservation Service) shall be designed to encourage groundwater recharge via the use of infiltrative systems sized to contain one inch of parking lot runoff. Parking lots with heavy usage or near water supply sources shall include measures to reduce the chance of groundwater contamination, including oil traps, sediment basins, vegetated filters, etc. prior to infiltration systems. The use of grass medium strips and depressed island is encouraged.
- c. **Driveway Runoff:** Where possible, residential driveways shall be graded to encourage runoff flow onto pervious areas such as grass lawns and woodlands rather than directly to catch basins or drainage systems.
- d. **Sheet Flow:** Runoff shall be designed into sheet flow across natural or artificially vegetated areas whenever possible.

5.8.6. Storm Water Detention Facilities

Storm water detention facilities to temporarily store excess runoff may be used to control peak flow rate and duration of downstream flows when coordinated with the runoff characteristics of the watershed in which they are located and the local site conditions.

Detention facilities may include, but are not limited to:

- Surface Detention Basins
 - Subsurface Detention Basins
 - Landscaped Depressions
 - Ponds
- a. Any detention system dam whose failure could cause significant damage or loss of life may be regulated as a dam by DEP pursuant to Sections 22a-401 through 22a-409 of the General Statutes. The applicant shall submit all detention basin designs to the DEP for a preliminary permit determination and copy the Borough Engineer on all correspondence.
 - b. All detention facilities shall be analyzed with hydrograph and storage routing techniques, such as NRCS TR-20 method. Smaller areas may be analyzed with other methods, such as TR-55 if approved by the Borough Engineer.

- c. The waters released from a detention facility shall not increase the peak flow rate at off-site downstream points unless they have adequate flow capacity.
- d. Section 8E of the "Connecticut Guidelines for Erosion and Sediment Control" (1988) as may be amended shall be used as a guide to construction details and materials. The minimum free board for the 100-year storm is one foot.
- e. An operation and maintenance schedule shall be prepared for every detention facility identifying responsibilities and items of routine maintenance, after use and emergency operations in the event of a flood.
- f. An emergency discharge outlet shall be provided with a capacity equal to the discharge from a 100-year frequency flood, with routing computations.
- g. The procedure for computing the outflow from detention basins consists of the development of storm hydrographs and the routing of these hydrographs through the detention basin. US Soil Conservation TR-20 or TR-55, HEC-1, Santa Barbara Urban Hydrograph, Modified Rational Method or other methods acceptable to the Borough Engineer may be used.
- h. The detention facilities may be designed as a multipurpose sedimentation basin for use during and after construction. All permanent detention facilities, if used during construction as sediment basins shall be thoroughly cleaned of all sediments and debris accumulated during construction prior to placement into service.
- i. The design of a detention basin facility shall include the following data:
 - 1. Plan with a scale of not less than 1" = 40' showing proposed contours with a 2-foot interval.
 - 2. Details of the outlet.
 - 3. Inflow hydrograph with outflow hydrograph superimposed on it.
 - 4. Cross sections of the embankment and spillway.
 - 5. Inflow mass curve.
 - 6. Elevation – storage curve or table.
 - 7. Elevation – discharge curve or table.
 - 8. Flood-routing calculations.
 - 9. Written comments on the subsurface conditions relative to water table, ledge, and soil permeability.
 - 10. Materials used in construction of the facility.
 - 11. Methods employed to avoid clogging the discharge mechanism.
 - 12. Fencing for public safety.
 - 13. Proposed landscaping and vegetative measures used to stabilize slopes and bottom surfaces. Detention basins shall be designed with attractive landscaping to function as a public amenity as well as a functional storm water facility.
 - 14. A wetland habitat or wildflower seed mixture in place of grass seed along all non-lawn areas is encouraged.
 - 15. The designer will make note on the construction drawings that all detention areas are to be built and stabilized prior to any work beginning on the Storm Drainage System.

5.9 STORM WATER CONVEYANCE SYSTEMS

5.9.1. General Conditions

- a. Priority should be given to maintaining natural systems, including perennial and intermittent streams, swales and drainage ditches in an open condition.
- b. The conveyance systems shall be designed to minimize changes in the runoff travel time via the use of overland flow, grass lined channels, surface depression storage, etc.
- c. Closed storm drain systems involving storm drain pipes should be designed to:
 1. Have a minimum capacity of the 25-year frequency storm flow.
 2. Have capacity as determined by Manning's Equation.
 3. Have a minimum size of 12-inch diameter and a minimum slope of 0.005 feet per foot.
 4. Shall be designed to maintain a velocity of 2.0 feet per second when the pipe is one-half full.
 5. Have adequate cover and strength to resist an HS20-44 AASHTO design vehicle.
 6. Drainage pipes shall be designed to flow just full or below full during the peak flow of the design storm.
- d. Conveyance systems shall not impede the movement of fish and other aquatic species in watercourses.
- e. All storm water drainage systems shall be designed and constructed to accommodate runoff from upstream land areas.
- f. A minimum cover of two feet over the crown of the pipe shall be provided for all storm drains.

5.9.2. Culverts and Bridges

- a. The hydraulic analysis and design of culverts have to consider the orifice flow conditions at the inlet, the capacity of the pipe itself, and the effect of the depth of water at the outlet (tailwater). All flow conditions have to be analyzed to determine which condition is the most restrictive. Culverts and Bridge openings shall be designed to provide a minimum freeboard of 1 foot (2' preferred) as measured from the gutter line of the street or in cases where there is no street the top of embankment for the peak flow of the design storm.
- b. Water surface elevations shall not be increased by more than one foot, nor allowed to cause damage or increased flooding to upstream properties.
- c. Suitable headwalls or flared-end sections shall be provided at the open end of any pipe; wing type headwalls shall be provided at the open end of large pipe. Culverts under streets may be extended to the edge of the right-of-way of the street.

- d. Debris barriers may be required on the upstream of culverts to prevent blockage or entry by children.
- e. The location of new culverts or bridges shall minimize the relocation of watercourses.
- f. Enclosing streams in culverts, other than road or driveway crossings, should be avoided so that natural stream corridors are maintained.

5.9.3. Catch Basins

- a. The first catch basin in a storm drainage system shall be located within 250 feet of the roadway summit when the upgradient road grade is greater than 5%. For roadway grades less than 5%, the first catch basin may be located within 400 feet of the roadway summit if gutter flow analysis allows. Catch basin spacing and type shall be determined by gutter flow design, or the need for future lot drainage. A drainage structure shall be placed at each grade change, horizontal direction change, and at the junction of two or more drains.
- b. All catch basins within intersectional areas are to be located five (5) feet before all Point of Curvatures (P.C.'s) and Point of Tangents (P.T.'s) along the curb alignment.
- c. A complete "Gutter Flow Analysis" will be performed to determine catch basin spacing and need for double basins in roadway sags. Flooding shall not exceed one half of the lane width. The design procedures for gutter flow analysis outlined in the State of Connecticut Department of Transportation "Drainage Manual" latest edition shall be followed unless another method is approved by the Borough Engineer.
- d. Double grate catch basins shall be used in sags and depressed areas when warranted by the gutter flow analysis.
- e. All catch basins shall have a sump to trap sediment. The sump shall be a minimum of 24-inches deep below the lowest pipe invert. Catch basin sumps must be watertight.
- f. Catch basins subject to potentially high debris loads of floatable material shall be equipped with a hood or baffle to prevent discharge of floating material.

5.9.4. Open Channels

Land clearing and grading within a natural stream corridor should be avoided or minimized, except at stream crossings, so that streams remain in a natural state.

Care should be exercised to ensure that riparian vegetation, including grasses, shrubs and trees in the stream corridor or along the watercourse, remain undisturbed during land clearing, land grading, and land development. A 50-foot wide vegetated buffer area is desired on both sides of natural streams.

- a. Type A open channels are classified as local drainage channels with a primary purpose of conveying urban, parking lot and road runoff from small watersheds, frequently with intermittent flow and limited ecological value and are intended to convey their design flow within their banks. They shall be designed in accordance with the following:
1. Freeboard allowances shall be provided in proportion of the potential damages that could occur in the event of overtopping.
 2. The use of impervious linings is discouraged, for situations where velocities warrant some form of protective lining, permanent turf reinforcement mats are encouraged.
 3. Channel linings or vegetative measures shall be designed to protect channel perimeter for the peak flow of the design storm. Calculations shall be submitted in the storm water management report.
- b. Type B open channels are classified as natural perennial watercourses or man-made channels planned to simulate a natural watercourse. They shall be designed in accordance with the following where appropriate:
1. Shall have a minimum flow capacity of a flood equal to at least 25-year frequency flood;
 2. Shall have an inner pilot channel to concentrate low flows with a capacity of a 2-year frequency flood;
 3. Shall have water surface profiles prepared for the 2, 25, and 100-year frequency floods;
 4. Shall consider the hydraulic capacity of floodplains;
 5. Shall be designed to minimize the need for artificial linings (concrete, rip rap, asphalt, etc.) for flows in excess of the 2-year frequency flood;
 6. Shall encourage ecological productivity and variety;
 7. Shall be visually compatible with its surroundings;
 8. The alignment and slope shall be compatible with natural channels in similar site conditions;
 9. Variations in width, depth, invert elevations, and side slopes are encouraged for aquatic and visual diversity;
 10. Straightening channels and decreasing their length is discouraged;
 11. The cross section used to determine the channel and floodplain geometry for water surface profile computations shall be located upstream and downstream of hydraulic structures, at changes in bed slope or cross-section shape, and generally at intervals of not more than ten times the width of the 100-year floodplain; and
 12. The friction coefficients used in the hydraulic analysis are to assume maximum seasonal vegetation conditions and should be adjusted to the depth of flow.

13. Channel restoration plans shall be prepared for all open channel projects. The plan shall help restore and/or create aquatic habitats suitable for fisheries, while maintaining or improving water quality, recreation, aesthetics and flow capacity. Coordination with the Fisheries and Wildlife Units of DEP is recommended. The channel restoration plan shall include, as appropriate:

- Avoidance of barriers to fish movements;
- Formation of pools and riffles;
- Provisions of areas of sheltered flow with use of deflectors, boulders, low check dams;
- Preservation of stream bank vegetation and establishment of new vegetation;
- Use of clean natural bed materials of a suitable size;
- Schedule work to minimize conflicts with spawning, stocking, and fishing seasons; and
- Removal of excess debris.

5.10 CLEARING, EROSION CONTROL, EARTHWORK AND EXCAVATION, SLOPES, RETAINING WALLS, SOIL PRESERVATION AND FINAL GRADING, SEEDING AND SODDING

5.10.1. Clearing and Erosion Control:

- a. The smallest practical area of land shall be exposed at any time during development.
- b. When land is exposed during development, the exposure shall be kept to the shortest practical period of time.
- c. Where necessary, temporary vegetative and/or mulching shall be used to protect areas exposed during development.
- d. Temporary diversion ditches, down-slope pipes, and culverts shall be used to channel run-off from construction areas to sediment control structures.
- e. Sediment basins, desilting basins, or silt traps shall be installed and maintained to remove sediment from run-off waters and from land under going development.
- f. Permanent vegetation and structures shall be installed as soon as practical in the development.
- g. Provisions shall be made to protect and maintain desirable landscape features by constructing barricades around selected trees and areas if they are within, or near to the construction area. This procedure should be completed before any grading or ditching operation commences.
- h. Phased clearing may be required within a subdivision, particularly on multi-phase projects.

5.10.2. Earthwork and Excavation:

- a. Earthwork and excavation shall be in accordance with the Zoning Regulations and Borough standards.
- b. The burial of tree stumps, shrubs, debris and construction materials shall be prohibited within the limits of the proposed subdivision. Stumps, construction debris, and other materials shall be legally disposed of off-site. The Engineering Department may require manifest tickets from trucks hauling material for disposal during construction to verify compliance with this Section.
- c. The disposal of boulders and large shot rock shall be in accordance with Borough standards to provide stable fill areas and prevent future sinkholes. Large boulders and rockfill areas shall be suitably placed with chinking layers to provide proper long-term stability and prevent settlement, subsidence, or sinkholes.

5.10.3. Slopes:

- a. Cut or fill sections beyond the sidewalk area shall not exceed a slope of two (2) feet horizontal to one (1) foot vertical, except in rock, or when stabilized by a retaining wall. Slopes steeper than 2:1 shall require detailed stabilization methods which shall be reviewed by the Borough Engineer. The Borough Engineer may require a decrease in the amount of slope to whatever extent is necessary to maintain the stability of the bank under the particular soil conditions.
- b. The Borough Engineer may require the removal or lowering of embankments adjacent to street intersections in order to assure adequate sight distance at the intersection.
- c. No cut or fill sections beyond the sidewalk area shall extend into property outside the subdivision or property not owned by the applicant unless appropriate slope rights are obtained; in the absence of such slope rights, appropriate retaining walls shall be constructed within the subdivision to prevent encroachment upon adjoining property.
- d. Soils information shall be provided for all construction within the right-of-way, lots, and off-site areas, if necessary, to verify the adequacy of the slope stabilization methods.
- e. The Borough Engineer or Building Inspector may require testing of any compacted fill areas, either within the right-of-way or on the building lots.
- f. Underdrains, cut-off trenches, footing drains, or other water controls may be required to control drainage, icing, or slope stability. Such drains shall be piped into a storm sewer or other outlet so that there is no negative impact to public safety or welfare. Footing and roof drains may not discharge to the gutter at the curb face.

- 5.10.4. **Retaining Walls:** Retaining walls and slope stabilization shall be permitted in accordance with the requirements of the Zoning Regulations, Connecticut Building Code, and Borough standards. The exposed wall surface shall be of a design and material which shall be in harmony with, and enhance the attractiveness of, the site and the surrounding area. The Commission may require landscaping at the top and the base of walls. The Borough Engineer may require a design, inspection and construction certification by a Professional Engineer when the wall exceeds a height of four (4) feet and a fence or rail shall be provided along the top of the wall in accordance with applicable building codes.
- 5.10.5. **Soil Preservation and Final Grading:** In areas of those subdivisions where the grade is to be changed or natural vegetation seriously damaged, except that portion of the subdivision to be covered by buildings, structures, or included in driveways, streets, watercourses or rock formations, such areas shall be precovered with topsoil with an average depth of at least four inches (4") which depth shall contain no particles over two inches (2") in diameter. Topsoil shall not be removed from the subdivision until such areas are provided with at least four inches (4") of topsoil, which shall be stabilized by seeding or planting.
- 5.10.6. **Seeding and Sodding:** In the same applicable areas as in the paragraph labeled "Soil Preservation and Final Grading", such areas shall be subject to resspreading of soil and appropriate seeding prior to release of the subdivision bond; except that the applicant shall submit an agreement in writing signed by the developer and/or property owner with a copy to the Building Official, that resspreading of soil and seeding of lawn will be done during the immediate following planting season and leave cash escrow for performance as shall be determined by the Borough Engineer. Sod may be used to comply with any requirement of seeding set forth herein. In place of a permanent vegetative cover, a temporary vegetative cover may be additionally required by the Commission

5.11 PROTECTION OF SITE RESOURCES

The natural features of a site shall be protected to the maximum extent possible and the felling of trees shall be kept to a minimum. The Commission may require:

- 5.11.1. The preservation or enhancement of specific natural features.
- 5.11.2. Conservation easements to ensure the long-term protection for such resources.
- 5.11.3. Dedication of open space to provide for public ownership of a significant resource.
- 5.11.4. The submission of additional plans that demonstrate the protection of such resources. The Borough may refuse the acceptance of the finished streets if the applicant does not conform to said additional plans for protection of natural features.
- 5.11.5. A bond relating to the preservation of natural features.

5.12 FLOOD HAZARD STANDARDS

- 5.12.1. Proposed subdivisions shall be consistent with the need to minimize flood damage.
- 5.12.2. Public utilities or facilities, such as, but not limited to, sanitary sewers, gas, electrical and water systems, shall be located and constructed to minimize flood damage.
- 5.12.3. Adequate storm drainage shall be provided to reduce exposure to flood damage.
- 5.12.4. Base flood elevation data shall be provided for all land proposed to be subdivided whether or not such data is available from the Federal Insurance Administration. The required detail and accuracy of said datum developed by the applicant shall be at the discretion of the Commission, which shall take into consideration the size and complexity of the development and the amount of land subject to flooding.

5.13 SOLAR ENERGY TECHNIQUES

- 5.13.1. The applicant shall demonstrate to the Commission that, in developing the subdivision plan, consideration has been given to passive solar energy techniques which would not significantly increase the cost of housing after tax credits subsidies and exemptions.
- 5.13.2. The site design techniques shall include, but not be limited to: house orientation; street and lot layout; vegetation; natural and man-made topographical features; and protection of solar access within the development.

SECTION 6 - OPEN SPACE, PARKS, PLAYGROUNDS AND RECREATION AREAS

6.1 DEDICATION OF LAND

- 6.1.1. For any subdivision, the Commission shall require the reservation of land for open space, parks, playgrounds, or other public purposes. This open space requirement may be met in the following ways:
- a. Dedication of land within the subdivision.
 - b. Dedication of land elsewhere in the Borough of Naugatuck.
 - c. A fee-in-lieu-of-open-space donation.
- 6.1.2. The Commission may require that up to ten (10) percent of the total area of a subdivision be set aside for open spaces, parks, playgrounds or recreation areas.
- 6.1.3. Such land shall be of such location, shape, topography and general character as to meet the purpose of these Regulations, as determined by the Commission. Unless otherwise approved by the Commission, the ratio of wetlands to non-wetlands of the minimum required land to be set aside for open spaces, parks, playgrounds or recreation areas, shall be no greater than the ratio of wetlands to non-wetlands of the entire tract.
- 6.1.4. In determining the need for such land and reviewing the location and appropriateness of an area reserved for parks, playgrounds, open space or recreation area disposition, the Commission shall consider:
- a. The Plan of Conservation and Development objectives, the Open Space Plan for the Borough of Naugatuck, the Regional Plan of Development, any reports or recommendations of State or Borough agencies pertaining to open space, and any plans adopted by the Park and Recreation Department.
 - b. The conservation and protection of wildlife and natural or scenic resources including lakes, ponds, rivers, streams, streambelts, floodplains, greenways, inland wetlands, aquifers, significant woodlands, stands of unique or scenic trees, particular trees of special size or unusual type, ridges, ravines, stone fences and walls, ledge outcroppings and other unusual physical features.
 - c. The protection of historic and archeological sites.
 - d. The meeting of neighborhood and /or community-wide recreational needs.
 - e. The presence, absence, or expansion of any existing open spaces, parks, playgrounds or recreation areas.
 - f. The protection or enhancement of the State Bridle Path and the Naugatuck State Forest.
 - g. The preservation of scenic areas.

- 6.1.5. The Commission may modify any application so as to designate open space in locations other than those proposed.
- 6.1.6. In determining the total land to be reserved as open space, the Commission may consider not only the tract or tracts of land to be immediately subdivided, but also any other adjacent tracts of land owned, controlled or under agreement to buy or option to buy by the applicant. When the subdivision is proposed to be completed in phases or sections, the applicant shall indicate the area of open space which will be a part of each subdivision section submitted.
- 6.1.7. When a subdivision abuts an existing open space, park, playground or recreational area, the Commission may require the lot lines of such land form a continuation of the existing open space, park, playground or recreation area to provide a single unified area.

6.2 CONDITION OF OPEN SPACE

- 6.2.1. Land to be provided as open space shall be left in a natural state by the applicant except for improvement or maintenance as may be expressly permitted or required by the Commission. Open space areas shall not be graded, cleared, or used as a depository for brush stumps, earth, building materials, or debris.
- 6.2.2. The Commission may require that any land to be dedicated for recreational use be cleared of brush, trees and debris; be graded to properly dispose of surface water, be covered with topsoil to a depth of four inches (4"); be seeded with a grass seed; and be otherwise improved so that the land is left in a condition appropriate to the intended use.
- 6.2.3. Any such land shall front on, or have direct access to, a public street through a right-of-way dedicated to public use. The Commission may require that such land shall have adequate frontage or right-of-way width for the intended purposes. The Commission may also require that such land shall include an access roadway (typically 24' wide, with an 8" processed aggregate base, with a grade of no more than 10%), adequate parking, if required, or a graded pedestrian walkway.
- 6.2.4. When site improvements are required they shall be clearly shown on the Record Subdivision Map.
- 6.2.5. When improvements are required in areas regulated by the Inland Wetlands Commission, the following shall apply:
 - a. When improvements are to be completed by the Borough, the Borough shall submit plans of the improvements to the Inland Wetlands Commission for review and approval.
 - b. When the improvements are to be completed by the applicant as specified herein, the applicant shall submit plans of the proposed improvements to the Inland Wetlands Commission.
- 6.2.6. To ensure proper protection of the open space or any required improvements, the Commission may require the applicant to post a performance bond in an amount and with terms acceptable to the Commission.

- 6.2.7. The boundary lines of all open space shall be marked in the field by monuments where any such lines intersect any lot line, road or perimeter line within the proposed subdivision and at such other points as may be required by the Commission.

6.3 METHOD AND PROCEDURE OF DISPOSITION

- 6.3.1. Unless otherwise approved by the Commission, provision for permanent disposition of land shall be arranged no later than the filing of the Record Subdivision Map. All required improvements shall be completed prior to the occupancy of fifty (50) percent of the lots of the subdivision or subdivision section and the Commission may require final disposition at this time. Final disposition shall be completed prior to the request for road acceptance by the Borough and prior to release of the subdivision surety.
- 6.3.2. Proper provision for the permanent disposition and management of open space land shall be made by the applicant and approved by the Commission. The following disposition methods may be used:
- a. Conveyance to the Borough of Naugatuck if approved by the Board of Mayor and Burgesses. The Commission may refer the subdivision application to the Parks Commission, Inland Wetlands Commission, Conservation Commission or any other commission, department, agency or official it deems appropriate for review and comment of the proposed open space to determine the appropriateness of the conveyance of the open space to the Borough of Naugatuck. The Planning Commission shall consider the needs of the Borough of Naugatuck in its determination.
 - b. Conveyance to the State of Connecticut.
 - c. Conveyance to a land trust or similar non-profit conservation organization.
 - d. Conveyance to a Homeowner's Association.
 - e. Conservation Easements. Conservation easements shall be in a form approved by the Commission, shall apply to locations which meet the requirements of this Section and shall run with the property in perpetuity.
 - f. Where the purposes of open space preservation can be achieved through permanent restrictions upon property, as distinct from fee ownership thereof, the Commission may approve the use of conservation easements. Such easements shall be in a form approved by the Commission and the Borough Attorney.
- 6.3.3. The applicant may designate in its application which of the foregoing entities is proposed to own the open space, but as part of the approval of such application the Commission may modify such designation.
- 6.3.4. The Commission shall determine the most appropriate method of disposition after considering, among other things, the relationship of the subject area(s) and its specific characteristics to the objectives cited herein.

- 6.3.5. In the event the applicant desires to transfer to the Borough land for other municipal purposes such as future schools, firehouses, etc. the dedication provisions of this Regulation shall be complied with. The Commission may consider such a municipal dedication as a credit toward any open space disposition requirement, but may not require such dedication.
- 6.3.6. All warranty deeds for dedication of land to the Borough shall be held in escrow by the Commission to be recorded on the Borough Land Records upon acceptance by the Board of Mayor and Burgesses. In the event that acceptance is rejected by the Board of Mayor and Burgesses, the deed shall be returned and the applicant shall return to the Commission for determination of an alternative means of preserving the open space.

6.4 PROPERTY OWNER'S ASSOCIATION

- 6.4.1. The Commission may, upon the request of the applicant, permit the ownership and maintenance of the open space to be transferred to an association of property owners. Such transfer shall be in accordance with standards established by the Commission to include, but not be limited to the following:
- a. Creation of the association or corporation prior to the sale of any lot.
 - b. Mandatory membership in the association by all original lot owners and any subsequent owner; Non-amendable bylaws or other restrictions which require the association to maintain the land reserved for open space, park, playground or recreational purposes, with power to assess all members for all necessary costs.
 - c. Provisions/restrictions which will be perpetual and binding on all future property owners, and will not be affected by any change in land use.
 - d. The association or corporation shall have the power to assess and collect from each lot owner a specified share of, and, where necessary, provide reserves for the costs associated with maintenance, repair, upkeep and insurance of the open space.
 - e. Any deed of conveyance shall contain language providing the association with the right to obtain reimbursement for all costs it reasonably incurs, including attorney's fees, in any action to enforce its rights against any lot owner, in which the association is the prevailing party.
 - f. Association documents shall provide that if maintenance or preservation of the dedication no longer complies with the provisions of the document, the Borough may take all necessary action to assure compliance and assess against the association all costs incurred by the Borough for such purposes.
- 6.4.2. Any conservation easements or other open space covenants or restrictions shall be subject to the approval of the Commission in form and content. After approval by the Borough Attorney and the Commission, said document shall be filed by the applicant in the Office of the Town Clerk.

6.5 FEES IN LIEU OF OPEN SPACE

- 6.5.1. The Commission may authorize the applicant to pay a fee to the Borough or pay a fee to the Borough and transfer land to the Borough in lieu of any requirement to provide open spaces, parks, playgrounds or recreation areas. The Commission may refuse such fee if it determines, in its sole discretion, that there are acceptable areas on the subdivision which merit preservation by one of the methods set forth in these Regulations.
- 6.5.2. In the event that such authorization is granted by the Commission, the following procedure shall be followed:
- a. Such payment or combination of payment and the fair market value of land transferred shall be equal to not more than ten (10) percent of the fair market value of the land to be subdivided prior to the approval of the subdivision.
 - b. The fair market value shall be determined by an appraiser jointly selected by the Commission and the applicant. The fee of the appraiser shall be paid by the applicant.
 - c. A fraction of such payment, the numerator of which is one and the denominator of which is the number of approved lots in the subdivision, shall be made at the time of the sale of each approved lot in the subdivision and placed in a fund. Such fund shall be used solely for the purpose of preserving open space and the capital improvement of existing open space land, including the acquisition of land for open space or for recreational purposes.
 - d. When fees are provided in lieu of open space land, the developer shall execute a consensual lien which shall be recorded on the Borough of Naugatuck Land Records. Partial releases shall be provided upon the tender of each fractional payment.

6.6 EXEMPTION

6.6.1. The open space requirement shall not apply if:

- a. The transfer of all land in a subdivision of less than five (5) lots is to a parent, child, brother, sister, grandparent, grandchild, aunt, uncle, or first cousin of the property owner for no consideration.

When a subdivision is to be exempted from any open space requirements because the land is to be transferred to a family member per Section 8-25 of the Connecticut General Statutes, then the following notice is to be added to Record Subdivision Map as part of the approval:

"Notice: This subdivision has been exempted from the open space requirements for fees in lieu of open space upon the express condition that all lots in the subdivision will be transferred by the applicant to persons who are the applicant's parent, child, brother, sister, grandparent, grandchild, aunt, uncle or first cousin for no consideration. No portion of this subdivision shall be deemed a building lot until all of such transfers have been perfected. The Planning Commission and the Zoning Enforcement Officer may require reasonable evidence of the relationship of the transferee to the transferor and the fact that the transfer was made for no consideration before any portion of this subdivision will be treated as a building lot."

- b. The subdivision is to contain affordable housing, as defined in Section 8-39a of the Connecticut General Statutes as amended, equal to twenty-five percent or more of the total housing to be constructed in a subdivision.

SECTION 7 - WAIVERS AND VARIANCES

7.1 WAIVER OF REQUIRED IMPROVEMENTS

7.1.1. The Commission, upon written request by the applicant, submitted with the original application may waive any requirement of these Regulations, or part thereof, by a three-quarters (3/4) vote of all the Commission members, when it finds that:

- a. Conditions exist which affect the subject land and are not generally applicable to other lands in the area.
- b. The granting of the waiver shall not have a significant adverse effect on adjacent property or on public health and safety.
- c. The waiver shall not conflict with the Zoning Regulations or any other Borough, State or Federal Regulations, or have the effect of nullifying the intent or purpose of these Regulations or the Plan of Conservation and Development.
- d. All of the following conditions may be considered by the Commission when granting a waiver:
 1. That the granting of the waiver will not detract from the value of the adjoining propertie(s).
 2. That strict enforcement of these Regulations would deprive the property owner of rights commonly shared by other owners of property in the area.
 3. Strict adherence to the requirements of these regulations would result in the alteration or destruction of an environmentally sensitive area or a significant or unique natural feature, such as a large tree, a watercourse, a wetland or a rock formation.
 4. Strict adherence to these Regulations would result in significant alteration of the natural land contour in a manner that would aggravate natural drainage or cause erosion and sedimentation problems that would be difficult to control or correct.
 5. A subdivision design standard would impair maximum access to the sun for solar energy on one or more lots in the subdivision.

7.1.2. In granting any such waiver the Commission shall attach such conditions, or require such guarantees as may be necessary to protect the public interest and shall enter upon its record the reasons for which such waiver is granted.

SECTION 8 - PENALTIES

8.1 PENALTIES

Any Person, firm or corporation making any subdivision of land after the adoption of these Regulations without the approval of the Borough Planning Commission is subject to penalties provided in the Connecticut General Statutes as amended.

SECTION 9 - ADMINISTRATIVE PROVISIONS

9.1 ENFORCEMENT

The Commission shall designate an individual who shall serve as the Enforcement Officer for these Regulations as required by law. This Enforcement Officer shall be charged with the duty of preventing illegal subdivision of land and of securing compliance with the requirements imposed by the Commission on subdivisions of land approved for record.

9.2 INSPECTION

The Borough Engineer shall be charged with the inspection of the subdivision to ensure compliance with approved subdivision plans and to ensure compliance with the certified sediment and erosion control plan and that erosion control measures and facilities are properly installed and maintained.